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# AMIGA SHOPPER

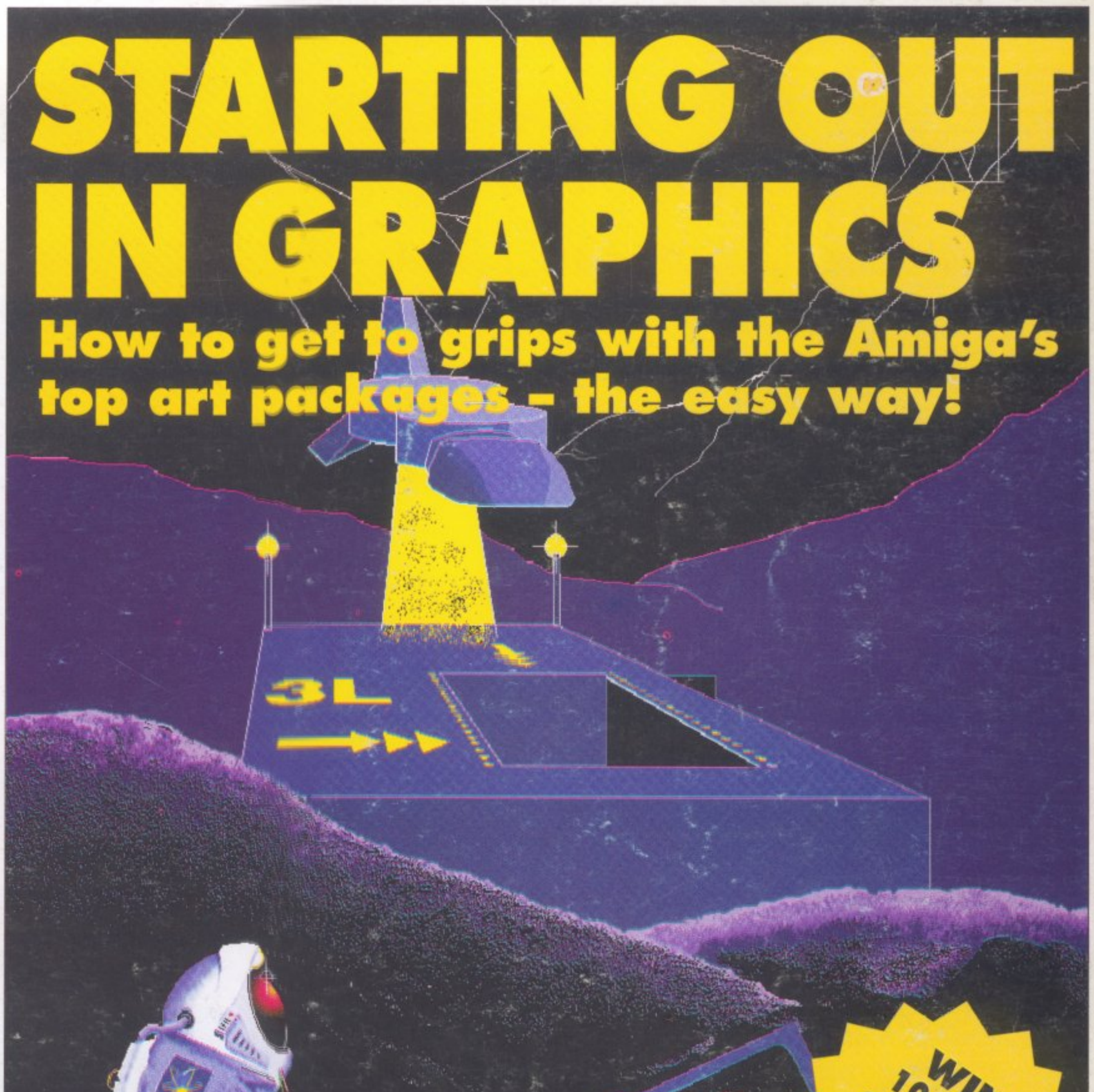
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ISSUE 10 • FEBRUARY 1992 • £1.25 • YOUR DEFINITIVE GUIDE



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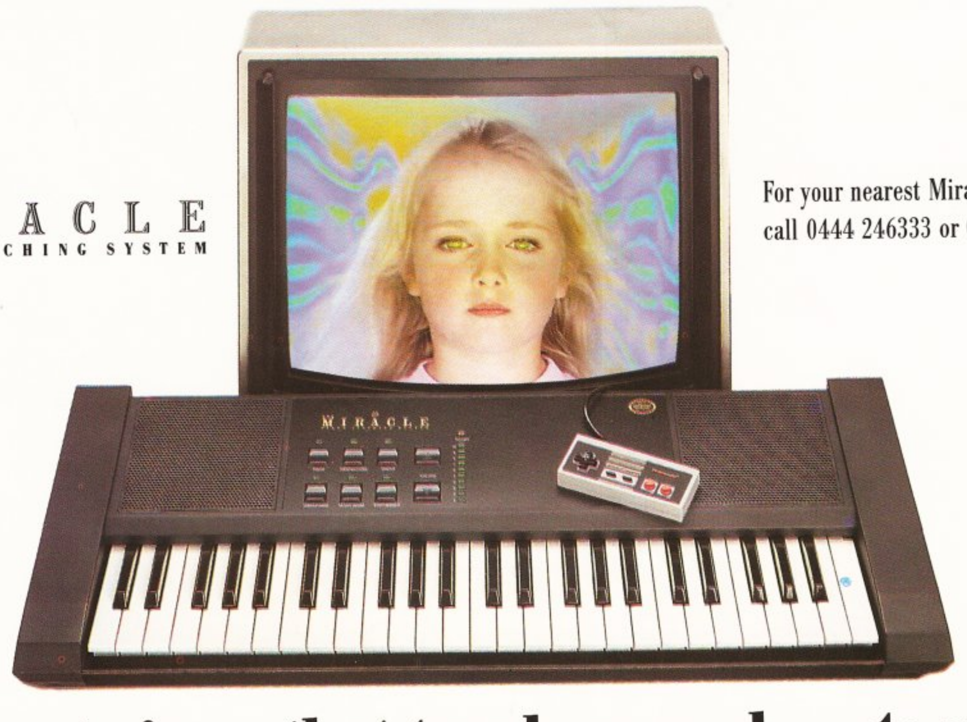
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To help you find what you want quickly and easily, this is a cross-referenced list of all the products and subjects covered in this month's *Amiga Shopper*. The subjects covered in Amiga Answers are detailed on page 49; the many PD programs covered on page 154 are listed there. The page numbers given are for the first page of the article in which the product is mentioned.



# WELCOME

Looking back over the seven years of its short life you could easily be forgiven for thinking it's about time an upgrade to the Amiga's excellent graphics and audio capabilities was brought to market. After all, seven years is an eternity in computing and even though our machine's audio-visual technology has set a standard which the PCs and Macs of this world have, arguably, yet to surpass, the much-vaunted Enhanced Chip Set is still unavailable for A500, 1500 and 2000 owners in the UK.

So, why the delay? New A500 Plus and A3000 owners already have the ECS up and running. But that's not all they have to hand. There's the new Workbench and Kickstart too. At the moment if you want these extra goodies you have to get them direct from Germany and the USA or get a UK distributor to do the job for you. Already, Aquarian Public Domain are importing the new Kickstart ROM, Workbench disks and manuals from the USA and will let you have them for £89. It's only a matter of time before other companies start to undercut them and begin to get perilously close to the price Commodore itself proposes to sell them for. So why isn't Commodore UK nipping this in the bud and offering you the benefits of an official upgrade path right now?

Well, by the end of January it could well be doing just that – and offering to fit it for you for an all in price of £79. Which looks like your best bet because replacing ROMS can be a bit tricky even when you know what you're doing.

But what about the ECS? Sometime in spring seems to be the earliest possible date here but do you want to wait that long? It could well be mid-summer knowing how the usual delays set in. So what's to do? Why not give WTS Electronics a call on 0582 491949 and ask for Super Denise – you might be pleasantly surprised!

Andy Storer

Editor

## PUBLIC DOMAIN WORLD

There are thousands of Amiga programs which are available for little more than the price of a disk. And many more which allow you to try the software free before you buy. Each month in Public Domain World we examine the best of these programs and explain how to get hold of them.

This month our resident PD sampler Jason Holborn scans through his latest batch to review:

- *Snap 1.4* – a smart clipboard for screen grabbing
- *Liner* – A budget thought processor
- *Smart Icon* – shrink a directory to a single icon
- *Flash disk* – A PD equivalent to the BAD optimiser
- *Label Print* – automatic disk labelling the easy way

AND THAT'S NOT ALL!... JUST TURN TO PAGE 154

## AMIGA ANSWERS

**SIXTEEN PAGES DEVOTED EXCLUSIVELY TO ANSWERING YOUR QUESTIONS**

Every month in Amiga Answers our panel of experts answer more genuine reader questions than any other Amiga magazine. And for beginners our starter page will help you get to grips with your Amiga, and understand the other features in this month's issue.

We answer questions every month on Workbench • The CLI • Comms • Programming • DTP • Video • Business software and more.

THE ANSWERS START ON PAGE 41
BEGINNERS TURN TO PAGE 69

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**Issue 10 February 1992**

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*Production Editor:* Alison Harper
*Consultant Editors:* Jeff Walker, Mark Smiddy, Phil South
*Contributors:* Jason Holborn, Pat Winstanley, Paul Andreas Overaa, Paul Oakenden, Jolyon Ralph, Gary Whiteley, Dean Cracknell, Mick Draycott, Jon Bates
*Guest Composer:* Frederic Chopin
*Ad Manager:* Margaret Clarke
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*Cover illustration:* Maff Evans
*Production Technicians:* Simon Windsor, Chris Stocker, Jerome Clough
*Assistant Publisher:* Stuart Anderton
*Circulation Director:* Sue Hartley
*Promotions Manager:* Michele Harris
*Group Publishing Director:* Greg Ingham

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*Editorial*
30 Monmouth Street,
Bath BA1 2BW
Tel: 0225 442244
Fax: 0225 446019
E-mail: amshopper @cix.compulink

*Advertising*
Rayner House, 23 Higher Hillgate,
Stockport SK1 3ER
Tel: 061-474 7333
Fax: 061-476 3002

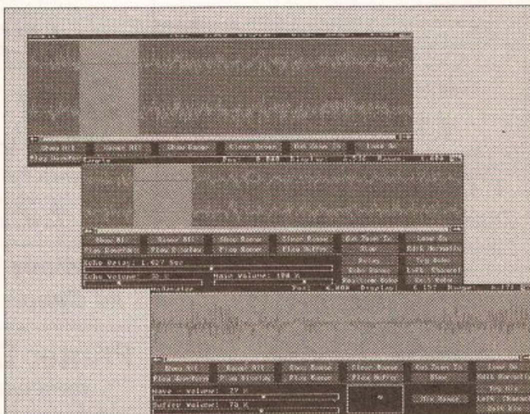
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LC2410 Mono 24pin ... 182
LC24200 Mono 24pin . 219
LC24200 Colour 24pin 275
Prices include VAT cable & paper

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(100% certified error free)

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# Mystery Surrounds Amiga Portables

**ACCORDING TO US on-line news service AmReport, two portable Amigas are being readied for imminent release.**

**However, neither are official Commodore products, being developed instead by Kansas-based firm, Newer Technology. Although pricing details are unavailable as yet, the two portables, provisionally called the Model 10 and Model 30, are slightly larger than the page you are reading and only 2 inches thick. They are based on a clamshell design which unfolds to reveal a 10 inch mono or colour LCD display.**

**The Model 10 has a Motorola 68000 processor clocked at 7.16MHz, and either a 1.3 or 2.0 ROM. The Model 30 is a high end version, with a 68030 clocked at 24MHz and an optional 68882 maths co-processor. Weighing between 3 and 6lbs depending on configuration, both machines feature 2Mb of RAM, expandable up to 8Mb and feature a 880K floppy drive as standard. Both are believed to be 100% software compatible.**

**Newer Technology also intends to bring out a series of peripherals, with an internal 20Mb hard disk, battery charger and PC emulator card first on its schedule. An optional CD-ROM drive is also pencilled in for release.**

**The Model 10 was to be shown at December's World Of Commodore Show in Toronto. It didn't appear. On contacting Newer Technology, we were told by a tight-lipped spokesman that "the company is re-assessing the products' viability."**

## LEGAL BLOCKS

**Industry insiders believe the machines' non-appearance is due to legal moves by Commodore US to block development of the products, drawing on US copyright and patent law to protect its proprietary chip set. Any company intending to launch its own clone would have to clear rights on the Amiga's five custom processors.**

**It will be interesting to see how this story develops, given that in the US market a colour portable 68030-based Amiga equipped with a Video Toaster would make substantial sales inroads into video and TV production markets, not to mention the graphics and animation sectors. Commodore has never ruled out the possibility of a portable Amiga, indeed the technology is readily available, but the company has previously indicated a lack of confidence in such a machine's viability.**

**Rumours of portable Amigas have continually surfaced since 1989 when a German company, Gigatron, first announced it had developed a battery-powered machine. It is believed this fell foul of Commodore's lawyers after protracted negotiations.**

**Whether Newer Technology will succeed where Gigatron failed remains to be seen. However, in the US, precedents already exist in parallel markets for cloners of proprietary hardware. Apple was**

continued on page 8

## THERE'S NO PLACE LIKE ZONE

Zone distribution has been inundated with calls, and needs someone who is computer literate and has knowledge of music to help out. The job will involve both technical support and sales, specifically handling the Dr T and Blue Ribbon Soundworks ranges of software. If you're interested in the position call ☎ 081 766 6564 for more information.

## Pandering to the market

Two new products have recently emerged from Pandaal marketing.

The first is an upgrade to the *DAATAscan Professional* software supplied with the company's hand scanner. Version 2 adds the following features: reduced view of full image, page rulers, resizing of images by percentage or pixel values, re-sizing of print outs, and interlace mode support. Existing users can upgrade for £15.

The second release is a stereo sampling/ sequencing package. *MEGAsound* includes a sampling cartridge which plugs into the Amiga's parallel port and supporting software to enable sampling, editing and sequencing. Up to 18 samples can be used in one sequence, with four channels of sound. A spectrum analyser and real-time oscilloscope are included, as is an effects menu providing echo, pitch bend, reverb and phaser distortions. A number of filtering options are also available. *MEGAsound* costs £49.95, but is being sold at the introductory price of £39.95. ☎ 0234 855666



**Witness the magic of Pandaal's *DAATAscan Professional 2* software**

## IN BRIEF

### DISK SHORTAGE...

**We'd like to warn readers that there is currently a floppy disk shortage, expected to last until February. This could mean delays and price rises, so we advise you to check with suppliers before ordering.**

### ATONCE IMPROVED

**Users who require PC emulation will be interested to know that Vortex has announced a new version of its ATOnce board, called the 'Plus'.**

**Clocked at 16MHz, the board is twice as fast as its predecessor. The AT emulator comes with 512Kb of RAM, and a socket for a maths co-processor. Support for CGA, Hercules and monochrome EGA/VGA graphics standards is given. As well as the A500, the board will fit into an A1500 or A2000, and is also compatible with the new A500 Plus. It is expected to cost £248, and will be available in the UK from Silica Systems ☎ 081 309 1111. Vortex ☎ 010 49 7131 597214.**

### ART OF THE MATTER

**Artworks has released two new clip art disks: *Wild Animals* and *Signs and Symbols*.**

**The range now comprises five collections at £6.99 each, the other three being *Pets, Trees and Cottages, Castles and Churches*. Each disk hold between 120 and 240 images in monochrome IFF format. Artworks can be contacted on ☎ 0469 588138.**

### SPEEDY GONZALEZ COMES HOME

**The Speed Mouse has been released by Logic 3, purveyors of fine joysticks. At £17.99, the Speed Mouse falls at the budget end of the rodent market, and is primarily designed for games use. The mouse is marketed by Spectravideo ☎ 081 900 0024.**

continued from page 7

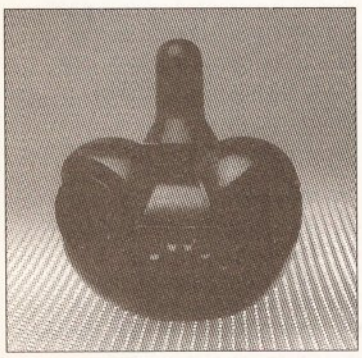
**recently surprised by a novel approach adopted by Outbound, a company which launched three Mac notebooks at MacWorld Boston in August. Outbound had successfully sidestepped Apple's copyright by buying up old Macs, removing the chips and selling them on in their own cases complete with third party LCD displays, hard disks, mice and floppy drives. Only two months later, Apple responded by launching its own, cheaper, notebook.**

**But the likelihood of Commodore releasing its own portable would appear to be remote. In April 1990, it was understood to be working on such a machine but power problems and the absence of cheap, high quality colour LCDs at that time ruled out any production other than prototypes. Nevertheless, a projected price of around £2000 per portable was in circulation. These days though, screen and power technologies are a lot cheaper. Newer Technology's portables, if they ever see the light of day, should come in at less than half that price for the entry model.**

## Joie de jeux

CLOSET GAMES PLAYERS will be pleased to know that Cheetah has released a new joystick; The Bug.

At a price of £14.99, the stick comes in an unusual shape which some would describe as 'bug-like'. Cheetah is on ☎ 0222 867777



It's mean, it's moody, it's called The Bug and it's a joystick

## An Amiga for teacher

Commodore will be present at the 1992 BETT exhibition, demonstrating its commitment to technology (specifically its own) in education, on 22-25 January 1992, at the Barbican Centre in London.

The whole range of Commodore equipment will be demonstrated, including CDTV, the Amiga and the PC clones.

Special needs is an area which the company will be particularly addressing. To this end, the aid of Think Limited has been enlisted. Think Limited (☎ 021 384 4168) markets the Concept 2000 keyboard, a large touch sensitive pad which can be customised for different applications, and the Touch Window, a touch-sensitive screen which obviates the need for a mouse.

## What's invisible and red all over?

An infra-red printer link, that's what. Frontline Distribution is handling the UK launch of Infralink, a device that enables any number of computers to transmit data to up to eight printers. This would eliminate the need for the masses of cables which arise when using more conventional methods.

The device plugs into the parallel port of the computer - one is required for each machine in the network. Selection of the required printer is made via a channel switch at the front of the unit. No software is required.

Infralink costs £210.33 from Frontline Distribution ☎ 0256 463344.

## CD-ROM on the Horizon

States-based company New Horizons has announced a CDTV Personal Workstation, called Odyssey.

The workstation is comprised of a CDTV, 1084S monitor, printer, external floppy, modem, mouse, keyboard and software on CD-ROM. As well as a number of public domain programs, the ROM contains New Horizon's *ProWrite 3.2, Flow 3.0, DesignWorks 1.0* and *ProFonts I.*

Odyssey is designed to be a turnkey system for students and first-time computer buyers. It follows the trend started by NewTek, with its stand-alone Toaster, of packaging third-party products with Commodore equipment into a form suitable for a specific end-use. Odyssey costs $1995 in the States, but a price has yet to be announced for the UK.

Also from New Horizons, or more specifically Central Coast Software – now a division of the former – is an upgraded version of *Quarterback*.

*Quarterback* is one of the most popular Amiga hard disk backup utilities. Version 5's enhancements include output to streaming tape, compression, password protection, encryption, and Workbench 2.0 and ARexx support. The package costs £54.95. The price for an upgrade, for owners of earlier versions, is yet to be announced. It will be marketed in this country by Silica Systems ☎ 081 309 1111.

## BUOYANT SUCCESS

EVESHAM MICROS' CHARITY balloon stunt raised (as it were) £6,173 for the BBC Children In Need Appeal.

The mass launch was televised as part of the BBC's coverage of the appeal. Quite which balloon travelled furthest, winning its owner an Amiga 500 and colour monitor, was anybody's guess amongst the general melée. The staff at Evesham Micros, however, are sure they'll have the winner sorted out by the end of January. Evesham Micros ☎ 0386 765500

## ...of molecules and machines

**A MOLECULAR GRAPHICS package has been released for the Amiga by SciTech Software. Called *MoG*, the package will be of particular use to Chemistry and Biology students, both at A- and degree-level.**

**The purpose of the program is to teach students the three-dimensional structure of organic molecules and proteins. Its features include: rotations, translation and scaling of images; plots in IFF, PostScript, EPSF and HPGL formats; labelling of atoms; calculation of coordinates, distances, angles and torsion angles; and user-customisable colouring of atoms.**

**The basic package costs £100 (£60 with academic discount). A maths co-processor version is available for £150 (£90 for academics) and a linkable library version (which can be used as a front end to further applications) costs £250 (£150). SciTech is on ☎ 0372 275775.**

## POWER TO THE PUBLISHER

Power Computing has launched a new scanner on to the market.

Power Scanner works in resolutions from 100 to 400 dots per inch, with up to 64 grey scales. It plugs into the printer port, but comes with a through port so the printer can be connected afterwards.

The scanner's software is multi-tasking, and enables full screen editing of the scanned image in interlace or normal modes. Facilities exist to cut; crop; flip; rotate; scale draw freehand or lines, circles, boxes and elipses; and to zoom in on the image.

Two models are available. The monochrome version costs £99 and, a colour version is available for £239. Call Power Computing ☎ 0234 843388.

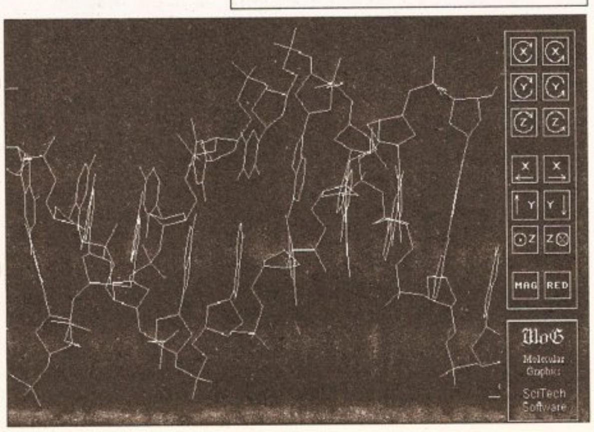
## NEXT IN THE SEQUENCE

**Called *Sequencer One Plus*, the program, as well as including all of the features of the original, adds the 'Diamond Drag' note editing system, which enables fast and easy mouse-controlled editing.**

**Another new feature included is the Juke Box Screen, in which songs can be chained together such that the next is loaded from disk while its predecessor is still playing.**

**The package costs £129.95, but is available as an upgrade to *Sequencer One* owners for £49.95 – to save yourself a tenner, check out our reader offer on page 134.**

**Gajits are on ☎ 061 236 2515.**




**Tip-toeing through a stretch of B-form DNA with *MoG*. For those of you reading in black and white, the sugars and phosphates are coloured red and are entwined with the green purine and pyrimidine bases**

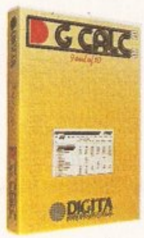
# The Digita range...



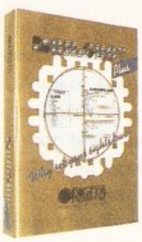

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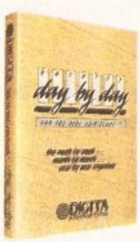
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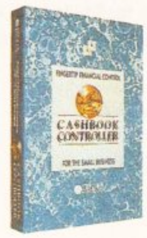


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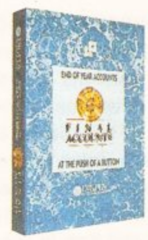


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# BRAND NEW BUNDLE FOR THE A3000

As part of Commodore's ongoing campaign to dominate the multimedia market, the company has announced a new bundling deal for the Amiga 3000.

The computer now comes with three packages: *Scala*, the business presentation package; *AmigaVision*, the multimedia authoring language; and *Deluxe Paint IV*, Electronic Art's painting package which is reviewed on page 34 of this issue.

Said Barry Thurston, director of Commodore's multimedia division, "This latest package makes multimedia available at a realistic price for any creative business user." Such business users will also be pleased to know that the Amiga 3000 now comes with a minimum of 4Mb in which they can be creative. Prices start at £3523.83.

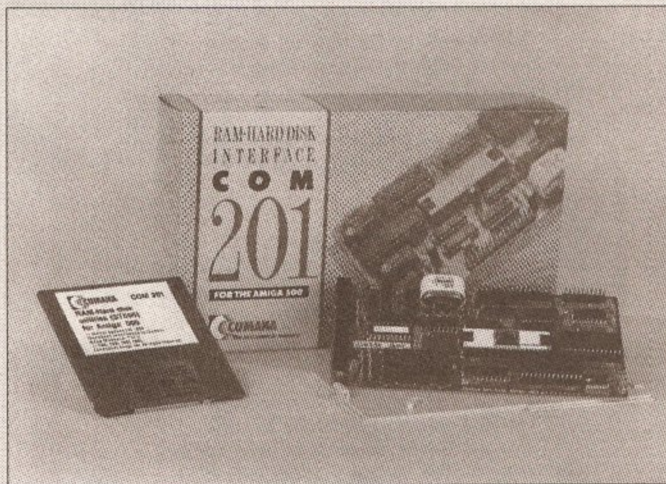
Further proof of Commodore's commitment to multimedia was given with the company's sponsoring of the consumer category of the eighth British Interactive Multimedia Association Awards. Two silver awards were given: one to the Multimedia Corporation for *A Bun For Barney*, written for CDTV; one to APS Interactive for *Great British Golf*, written for Philip's CD-I. The judges felt that no entries within the category warranted a gold award.

Commodore ☎ 0628 770088.

# PRICE DROP ENIGMA

Cumana has drastically dropped the price of its COM-201 package from £145 to £49.95. The unit fits in the Amiga's trapdoor expansion slot, adding an extra 0.5Mb of RAM and a ST506 hard disk controller (drive not included).

Such a reduction in price seems like a strange move. When asked why such a huge drop was necessary, the managing director of Cumana, John Simnett, said, "Thanks to the high volume of sales that the company has achieved, Cumana is now able to offer the COM-201 at a price that is within the range of all Amiga users."




**The Cumana COM-201 RAM expansion and hard disk controller – you'll have to be quick, before they're all gone**

# End of the line for Wordperfect

**THE WORDPERFECT CORPORATION has dropped the Amiga version of its high-end wordprocessor. Although technical support will continue for existing versions (currently at 4.1.12), no new versions will be released.**

**The news comes just as the company has launched version 5 for the IBM PC. It is believed that version 5 for the Amiga was also in the pipeline: the decision to drop it must have been a very sudden one.**

**A spokesman explained that the company's policy was that each product must create revenue for its further development in its own market, and that in the case of the Amiga market this was not feasible. This is certainly true: the prohibitive price of *Wordperfect* has made it an unfeasible proposition for most Amiga users. The company was faced with the dilemma of dropping the price of the Amiga version and angering the corporate PC buyers, or of dropping the Amiga product.**

**There has been speculation that this confirms the Amiga's lack of credibility in the business market, and that the machine can no longer be taken seriously. In reality, the machine has never been strong in the corporate sector: the dropping of *Wordperfect* will make very little difference to its image. Rather, it's the graphics and video fields where the Amiga is strong, and where it will no doubt continue to burgeon.**

## Citizen jet into printer market

PREDICTING THAT THE inkjet printer market will have expanded by 400% within the next four years, Citizen has decided it would like a slice of this lucrative sector. To this end, the company has released the PROjet printer.

The printer outputs at three speeds, the highest being 360 characters per second. The maximum resolution is 300 dots per inch. Three resident fonts are included: Courier, Times Nordic and Letter Gothic. Printing can occur in both landscape and portrait modes. Hewlett Packard Deskjet plus emulation is provided.

There are several options available, including a second cut sheet tray, a tractor feed mechanism and plug in memory cards for extra HP compatible downloadable fonts. The PROject printer costs £582.80. More information from Citizen ☎ 0895 272621.

## NEW MONITORS FROM NEC

NEC HAS ANNOUNCED a new range of multiSync monitors.

The monitors in the FG series are designed to conform to the forthcoming EEC safety directives. Their screens are flatter and squarer than the norm, and come with invar shadow masking to give a 20% brighter picture. Dynamic beam focus ensures corner to corner focusing of the displayed image, and FullScan gives a 29% improvement in edge-to-edge image area.

The range starts with the 3FG, which costs £599 and provides a maximum resolution of 1024x768 at a 72Hz vertical refresh rate. NEC is on ☎ 081 993 8111.



**NEC announce the birth of a star amongst monitors**

## PostScript printer makes its mark

An entry level PostScript printer has been released by OKI Systems. At £1,761.33, the OKI OL830 provides a cheap entry into the PostScript world for the DTP enthusiast.

Using an LED print head as opposed to a conventional laser, the printer offers a speed of 8 pages per minute with a claimed superior print quality at 300x300 dots per inch. OKI supply a five year warranty on the head.

The printer comes supplied with 2Mb of memory, expandable to 4Mb, 17 fully scaleable Adobe fonts and a single paper bin. Connection to the computer is made via the parallel port, although an optional RS232 serial interface is available.

The OKI OL830 costs £1,761.33 from OKI ☎ 0800 525585.

# Through the video window

**AN EXCITING NEW video development is poised for launch from Surface UK: *Super Video Windows* enables the display of live video footage within a window on an ordinary Workbench screen. If used with a VGA or multisync monitor, 16.7 million colours are possible.**

**The device is currently available for the IBM PC; its release on the Amiga has been delayed because of power supply problems – these are expected to be resolved by the end of January.**

**The device will be of use in many applications, including multimedia, video mail, security surveillance and, most importantly, watching TV while computing (with the addition of an optional PAL tuner).**

**Control over the picture's contrast, brightness, hue and saturation is possible, as is frame-grabbing. And, most surprisingly, it is possible to smooth scale the window's image in real-time. Audio support is also included in the form of volume, balance, bass and treble controls.**

***Super Video Windows* will be available in January for the almost unbelievable price of £586.33 from Surface UK.**

**Also new from Surface is *Calligari 2*, the low cost version of the modelling and animation package. The package has the same functionality as its big brother, including single point edit, slice and sweep functions, and an interactive spline based animation module with real-time preview.**

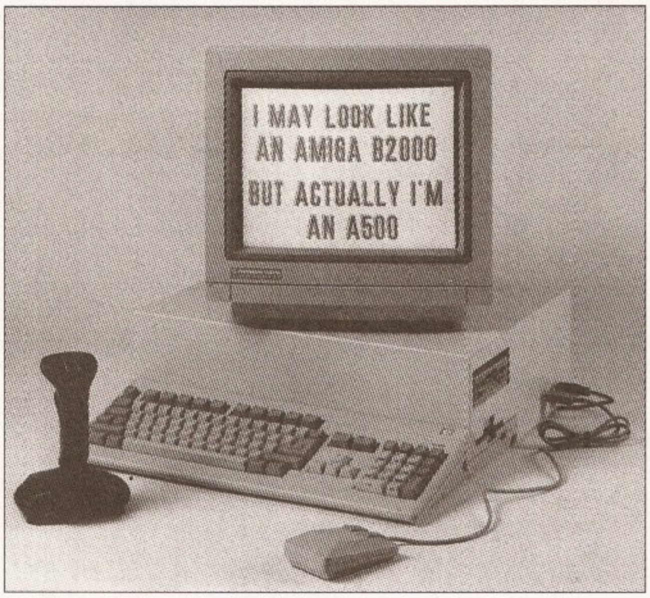
***Calligari* spurns conventional ray-tracing techniques, operating instead by a process which calculates images some 20 to 50 times faster. Support for HAM, DCTV and HAM-E framebuffers is provided; *Videoscape*, *Lightwave* and *Sculpt 3D* object formats can be both written and read.**

**The package costs £299. Surface UK. For information ☎ 081 566 6677.**

# Stand and deliver

If you've ever been ashamed at the look of your Amiga 500, you can finally bring it out of the closet, clothed in an Expansion Stand.

This revolutionary piece of engineering fits around the standard machine providing a 1.2mm steel case with rubber feet. A shelf is included for the addition of an extra disk drive. The unit costs £29.95 from AVA Developments ☎ 0908 262137.

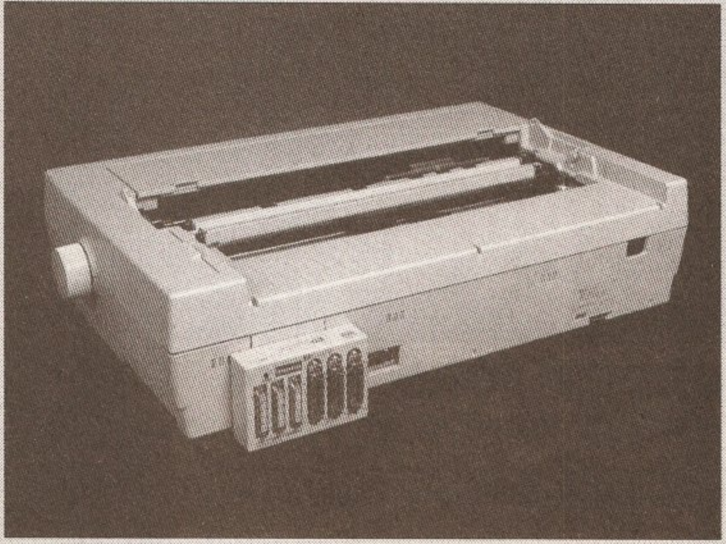



**Get the professional look with the Expansion Stand from AVA**

# Shares in Epson

Micro Control Systems has released Epshare, a device that enables any Epson printer to be shared by up to six separate computers.

The device plugs into the printer and is connected to the computers via three parallel and three serial ports. It has a buffer of 256Kb or 1Mb - a 4Mb version will soon be available. At a starting price of £292.58, the device is ideal for the educational environment. Contact Micro Control Systems ☎ 0602 391204.



**Put an end to fights over the printer with Epshare**

# OXXI ACQUIRES PRECISION

**As part of a takeover of Precision Software, Oxxi Inc. has acquired the company's line of products for the Amiga, Atari ST and C64/128.**

**Precision Software was taken over by Software Publishing Corporation. The latter company decided it had no use for Precision's low-end products and subsequently sold them off to Oxxi. This adds *SuperBase* and *SuperPlan* to Oxxi's list of products, and fits into the company's "strategic objective of being the premier source for productivity software on the Amiga platform," as John Houston, the president of Oxxi, put it.**

**Oxxi pledges to continue Precision's technical and customer support, which is available on ☎ 081 330 6911.**

# Diary Dates

**February 14-16**: 16 Bit Computer Show. Wembley Exhibition Centre, London. Westminster Exhibitions ☎ 081 549 3444.

**Watch out** for our very own *Amiga Shopper* show in the spring! There'll be bargains galore, a chance to talk to the team who put the magazine together and, of course, the opportunity to consult our expert panel.

**MAKING THE NEWS? MAKE THE CALL: 0225 442244**

If you have a news story you think other Amiga users ought to know about, then give us a call. We're not just interested in new hardware and software products – we want to hear about shows, services, overseas markets, gossip, famous Amiga users, weird uses for the Amiga, glamorous uses for the Amiga, major achievements and disasters caused by the Amiga, bankruptcies, new companies, you name it!

**News compiled by Cliff Ramshaw**

# stereo MASTER

When you are considering purchasing a sound sampler there are plenty to choose from. Why compromise? your choice should be the new full featured STEREO MASTER for the Amiga, with software that is designed from our top selling Amiga sampler AMAS and a package that gives you more extras than a M series BMW. By purchasing this state of the art product which combines a quality sampler with the expertise of over 10 years of software programming, you are purchasing a top quality product with the knowledge that it is not only compatible with existing Microdeal products but will also be with future ones.

### *What is Stereo Master*

Stereo Master is a low cost, high quality sound sampler for the Amiga range of computers. The sampler cartridge included in this package plugs into the printer port at the rear of the computer and allows you to analyze the sounds coming in from devices such as Personal Cassette Players, Compact Disc Players etc, or change the way they sound using the Real Time Special Effects or record them. Once in the computer STEREO MASTERS unique editor will enable you to edit the sound in practically any way you can imagine. Once you have the sound sample how you want it, you may incorporate it into your own Demo's or use STEREO MASTERS own built in sample sequencer to play back the sample in sequence with other samples!

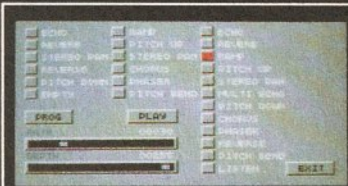


MAIN SCREEN

### *The Sampling Software*

Every feature you would expect to find in a professional editing suite including;

* Real time record/play ghost markers
* Cut or Delete selected sample area
* Mix sample with full or half volume
* Shrink in by 25%/50%/75% by drag or wipe
* Fade in/out with selectable degree of fade
* Filter sample with soft/medium/hard filter
* Selectable trigger volumes
* Record frequency from 3.0 to 55.9 Khz
* Full editing and control facility for left/right channels
* Playback volumes
* Decrease volume
* Increase volume
* Bounce sample
* Paste sample
* Trigger recording
* Clear left/right samples
* Loop sample

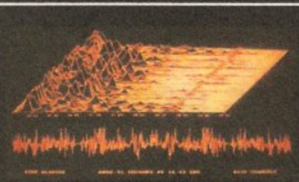


THE SPECIAL EFFECTS CONTROL PANEL

### *The Special Effects Software*

For the first time ever you can emulate special sound effects in real time just like the sound labs can for film studios, normally the hardware to produce these effects would cost 100's of times more than this package. Features on the FX menu include;

* Built in real time special effects including Echo, Reverb, Ramp, Pitch up/down, Stereo bounce, Multi echo Chorus, Phaser, Reverse and Pitch bend.
* Fully programmable special effects so that customised effects can be recalled

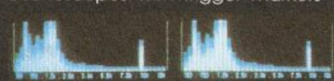


3D DISPLAY OF SAMPLE FREQUENCIES (FFT)

### *The Analytical Software*

A whole host of pro-type analytical functions include;

* 3D display of sample frequencies (Fast fourier transform)
* 3D display also includes 2D envelope display plus sample information.
* Built in Stereo spectrum analyzer
* Stereo Oscilloscopes with trigger markers



STEREO SPECTRUM ANALYZERS



STEREO OSCILLOSCOPES



THE SEQUENCER CONTROL PANEL

### *The Sequencing Software*

Our built in sample sequencer allows you to take up to 18 samples (memory permitting) and sequence them into your own "tronic" mixes, features on the sequencer include;

* Real time entry of sequences from keypad
* Step time entry of sequences
* 2 stereo channels for sequencing
* Storyboard style editing
* Digital sequence position display
* Fast forward/rewind controls
* Program sample to keypad
* Stand alone demo player displays IFF picture whilst playing sequence
* Sequence copy function
* Loop sample
* Selectable sequence speed
* Dump/re-edit function
* Test function
* 2 octave playback
* Insert/delete sample in step time

microdeal



### *Other innovative features*

We know this product is years ahead of its time and these additional features justify our boast;

* New style stereo cartridge
* Produces stand alone executable sample files
* Fully multi tasking
* Saves in IFF/Raw/Instrument1/3/5 Octave
* Includes walkman type cable
* PAL/NTSC full screen display
* Can create workbench icons
* Save customised settings

## AMIGA STEREO MASTER ORDER FORM AMIGA

STEREO MASTER IS £39.95 Post & Packing £1 (All prices inc. V.A.T.)

**BY PHONE WITH CREDIT CARD**



**(0726) 68020**

**BY POST** With cheque, Postal Order or Credit Cards.

Name... ..........................................

Address ..........................................

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Credit Card Type..............................Expiry Date................

Number ..........................................

**Please allow 28 days for delivery**

**SEND TO: Microdeal PO BOX 68 St Austell Cornwall England PL25 4YB**

# Talking Shop

***Welcome to your letters page. Want to know where your Amiga's coming from, where it's at and where it's going? Well, this is the place to be. So join your editor, Andy Storer, for another cruise through the Amiga user international computing world...***



## AN A1500 PLUS?

**Do you know by now, when or indeed if Commodore intend to release a Kickstart 2 version of the Amiga 1500? I have just sold my faithful 500 in order to upgrade, but the new 500s have appeared and there's no word of a similar development for 1500s. My local dealer says it doesn't have any idea if there ever will be a version 2 1500, let alone when it's likely to be available.**

**As I understand it, Commodore never announced the release of the new Amiga 500, intending the official release to be in the New Year. If they only started shipping the newer ones because they'd run out of 1.3s, then could it be the case that the Kickstart 2 1500s are on the sidelines, waiting for the official release date?**

**I find it inconceivable that Commodore could justify selling ECS-equipped 500s and 3000s while holding back on the 1500 – the best of both worlds in my opinion.**

**I do realise that a version 2 1500 would take a lot of trade from the 3000, but surely even Commodore (and I'm a long-time Commodore user, so I know how they deal with customers) couldn't be that cynical, so as to nobble the 1500 in favour of mass appeal for the 500 and higher profits on the 3000.**

**I'm happy waiting until the New Year in case a new 1500 is announced, but I can't wait forever, and I'll be mighty cheesed off if I miss out on the ECS by a matter of weeks! I hope by next month's issue you'll have some news on the 1500 – preferably the news I want to hear.**

**PE Browne**
**Bradford**

While the rumour is that A1500 owners will be offered upgrades by the Spring, Commodore has... but, shock horror, wait a minute – there's another letter from Mr PE Browne interrupting this reply...

## SPRINGING TO ASSIST

**In last month's *Amiga Shopper* you state in reply to a Mr Taylor's letter that Commodore has made no definitive statement about the prospects of a 1500 'Plus'**

**I wrote to Commodore a month ago with a similar question and received an official reply that a Kickstart 2 version of the 1500 is due to be released next Spring.**

**Unfortunately, I threw the letter away after reading it.**

**Had I realised that the computer press was so ill-informed I would definitely have forwarded a copy on to you.**

**PE Browne**
**Bradford**

Err...yes, thanks P.E. – a nice little sting in the tail there. Having now got a 'definitive statement' from Commodore UK, I can confirm that Kickstart 2 will be available 'in this quarter, probably this month, for around £79 plus £15 for fitting.' No mention of the Enhanced Chip Set though – that will follow later, possibly sometime in Spring. So I hope that's put you in the picture – and don't get so stroppy next time.

## MULTI-ROM AMIGAS

**With the release of the new A500 Plus, much interest has been generated with regard to Workbench 2.0 and Kickstart 2.04. I am the proud owner of an A500 1.3 and wish to upgrade to Kickstart 2.04. However, I do not want to sell my machine so that I will be able to purchase the new A500 Plus.**

**I plan to purchase a Multistart II ROM sharer for my machine to ensure compatibility with my present software. Unfortunately, I have not been able to find any supplier offering ROM 2.04. Would I therefore have to wait for the Commodore upgrade, or do you know of any supplier offering ROM 2.04?**

**Also would all the present hard drives and RAM expansions work with Kickstart 1.04 and 1 meg Chip Ram?**

**I will be waiting in anticipation for your informative advice in the ensuing issues of this great magazine.**

**Bradley Ernstzen**
**Peterborough**

Aquarian Public Domain ☎ 0703 685006 will supply you with a 2.04 ROM for £56 + p&p.

If you want Workbench 2 and its manuals as well, Aquarian offers these for an extra £33. All are official Commodore products from the USA. But as there's likely to be a bit of a rush for these, please check availability first.

## FOR THE LOVE OF GOD...

**I have successfully transferred files from my CD ROM disks "The Illustrated Holy Bible" which is IBM and CDTV compatible on to floppy disks in Binary code.**

**I have tried accessing them through a word processor, but no success. How can I change them from Binary into ASCII, if that is possible. Is there any software available that could do this?**

**I have a PC emulator IBem ... but I don't think this gives VGA graphics. I think this is necessary for the programme to run. Should I invest in an ATonce board? ... I would be grateful for your help.**

**I also have a Phethean's PD library disk which I am having difficulty in accessing ... though I can get perfect binary files on to floppy disk.**

**Rev. Michael Reynolds**
**Holsworthy**

**PS Your magazine is excellent ... always look out for it.**
**PPS I Have no CD ROM hardware ... only an old CD player with line-out through a sound digitizer. Funds are limited, for what is a hobby, as well as useful for my work.**

Ahem...forgive me for saying that what you need is a miracle. Either that or a A690 CD-ROM drive for your Amiga. Because what you are trying to do is nigh on impossible. However, I have to admire your ingenuity in successfully downloading binary code from a CD player via a sound digitiser. But then you don't say if you got the copied binary to run as a file!

However, as far as text files are concerned, your problem might not be the conversion of binary into ASCII. I think you'll probably find that the CD text has been compressed and that's why your word processor can't make sense of it. So, you'd need to find out how the data is compressed and then find an extractor for it.

Perhaps other readers may be suficiently intrigued to comment on this. Is it possible or not?

## CUSTOM WORKBENCHES

**I followed the discussions about the ROM-based Workbench with great interest. And I fully agree with you that the Amiga offers a good compromise between an out-dated MSDOS and the not so flexible MAC operating system.**

**So, answering your question in the October issue: I don't think there is a need to improve the WB and to remove Shell. There are more than enough PD programs to make a WB to every one's taste. When I bought my hard disk some years ago, I started experimenting with different PD programs. The best so far are *Mymenu* and *Conman*.**

continued on page 14

continued from page 13

***Mymenu* creates extra columns on your WB pull down menu and is very flexible. You can start almost any program or utility with your right mousebutton. *Conman* is far better than Shell. When I boot up, it is always present as a small CLI window. It can be enlarged by a simple press of a function key. I also made several custom Workbenches for friends, based on the same principle. The latest utility I came across is WMS (Workbench Management System) and seems to be the best so far.**

**Luc Stynen**
**Belgium**

I'm all for customised interfaces – what else should a front-end be? Other than redefinable. For you soon get bored with the same old desktop. The answer is to overhaul it.

It was like that with my Mac at work, until I came across a NeXT front-end that some Californian whizz-kid had put together.

Now there's a thought – front-end emulators – anybody out there think it's a neat idea?

My Systems Manager didn't. As far as he was concerned NeXT spelt NeVR and my pride and joy was consigned to the great wastebin in the sky.

## AND NOW THE A300...

**What's all this about an A300 i've been reading about? If I understood it correctly, apparently Commodore are planning a cut-down Amiga for under £200 that comes with no keyboard and no expansion ports.**

**Is this true or is it just a rumour?**

**DW Mason**
**Swanage**

Sounds to me like that same old chestnut, the Amiga console D.W. The one that was going to blast the Megadrives and Famicons off the face of the earth and sell like droves. I can't see it myself – simply because Commodore don't have the money to compete with the likes of Sega and Nintendo and even if they had, wouldn't want to get burnt again after the C64 console debacle.

But then again, it might be a good thing. All the games freaks would buy it up, leaving the A500 and above as the 'serious' contenders. Can't see it though.

## WE HAMMED IT UP

**I was very pleased to read my last letter, regarding the amateur radio packet network, in the December issue of *Amiga Shopper*, but I was disappointed that my final paragraph was edited out. I was hoping that you would include the address of the Radio Society of Great Britain, the national organisation that is the source of all knowledge for the Radio Amateur and the Would-be Amateur.**

**The RSGB really are the people who know what to do, and how to do it, and their sole purpose in life is to help the Radio Amateur. They can supply the details on the Novice Licence requirements, Packet Radio and other computer related modes. They hang out at:**

**RSGB Headquarters, Lambda House, Cranborne Road, Potters Bar, Herts EN6 3JE.**
**Cheers for Dave Seton, G7AIM @ GB7CRG**

**DJ Seton**
**Cheadle**

And a big cheers from us too...

## AMIGADOS TUITION

**I have been a subscriber to your magazine from Issue No 1 and have found it to be most helpful.**

**I am now the proud owner of an Amiga computer based upon the CDTV, in that I have a keyboard and two disk drives plugged in. I am writing this letter in *Notepad* and hope that my efforts will be printed by my Star LC24-200. All these effects I bought at the World of Commodore show at Earls Court earlier this month. This is my first "computed" letter so please excuse any mistakes!**

**I have started to re-read the articles by Mark Smiddy from Issue No 1 and onwards and last night arrived at Issue No 3, to become baffled by the *Master Class* program, the one about "SKIP". I found after literally hours of attentive reading and typing-in, that I needed to put "ED" before RAM Test 1 and also before RAM Test 2, followed by "RUN" before line 5 "Execute T: stopme".**

**At 2 o'clock this morning I had the words "Testing 1-2-3" and "Hello World" in a loop!**

**My wife couldn't quite see why I needed to tell her about it!!**

**I am looking forward to the other "classes" and hope that I will be able to understand them.**

**TH Connell**
**Whitstable**

I guess everyone who's ever programmed a computer can recall their first ever 'Hello World' torture session. I just wish mine had been on a CDTV that's all.

And it could be for more and more new users because, as we go to press, Commodore UK has gone on record as saying that the CDTV is now to be renamed the 'Amiga CDTV' over here. What's in a name? – you may well ask, but I think it's quite significant in so far as Commodore didn't even want CDTV on display within 500 miles of any computer originally. Now it's saying it's a computer after all.

So you might be pleased to know that the very same Mr Smiddy will be bringing you a five page special in the next issue looking at serious applications for CDTV. With keyboard, floppy drives and A690s all available now, or very soon, it's about time we gave it a good going over.

## IT'S AS EASY AS...

**I have just become an owner of an AMIGA 500 Plus and I am using *Pen Pal* to write to you.**

**While browsing through my free copy of *Amiga Format* I happened to notice an advert for *Public Domain* with a free disc included, on which was a copy of "Lotus 123 Clone", I was using Lotus at work, before I was made redundant, and I got to quite like working with it and wondered if there was any way I could obtain a copy of this disk, or even a copy of the Lotus Program.**

**JP Lawson**
**Loughborough**

*Visicalc* is the name of the 1-2-3 clone you're after and it's available on disk 957 from Canhams Leisure Software on 0908 274819. Alternatively you might like to try Disk 451 from Crazy Joe's on 0709 829286 which has the VC and SCalc spreadsheets. I can't vouch for just *how* compatible these programs are mind you – but at £2 or so a throw you can find out yourself. AS

## LET'S GET SERIOUS ABOUT THE AMIGA – LET'S SCRAP AMIGADOS!

**I read the Talking Shop page in *Amiga Shopper* for November with some interest. You ask for ideas as to what Commodore could do to get the Amiga accepted as a serious machine for academic use? I would make the following suggestions:**

**1. Advertise it as a serious machine in the same way that Atari are now doing with the ST.**

**2. Ensure that it has a fast, reliable, predictable operating system.**

**3. Ensure that the manuals which come with it are clear, concise and accurate. I will say no more on that.**

**To take the other items: Advertising: whether or not Atari succeed in getting their machine accepted as a serious one, only time will tell. But it is certainly a step in the right direction and could leave the Amiga even more exposed as a 'games only' machine in the eyes of the public. Commodore could also help in including the BASIC with the machine. But do Commodore want it to be taken seriously? After all, it did start out life as the ultimate games machine.**

**The operating system: one of the features of machine specific magazines is that the writers are understandably enthusiastic about 'their' computer. This is very laudable, but can lead to a certain blindness as to the relative merits of the various machines. Amiga magazines rubbish the ST, ST magazines rubbish the Amiga, Archimedes rubbish both, IBM ignores everyone else, and so on. I have all these computers, plus Amstrad PCWs, the CPC, BBC, Spectrum, Commodore C64, etc, and use them all regularly in my work. So I am well aware of their foibles.**

**In the case of the Amiga, the operating system in comparison to others appears slow, unreliable and not very predictable. If you think of it in a school environment I could never recommend the Amiga. It has a unique ability to 'eat' disks, takes ages to load and is just too prone to fall over. Giving the disk an infinite directory by putting entries in the next available slot may have seemed a good idea at the time, but is now unacceptable in terms of speed and reliability. How often have you thought that the disk operation was complete and started to take out the disk, only to be caught out?**

**When I first had the Amiga it was happening to me all the time, until I learnt better. Now it only happens occasionally. But really one should never be in the situation where it can occur. I can, and have been, taking disks out of the lowly PCW and CPC for 6 or 7 years with impunity. The reliability of these operating systems are such that I have never had to bother with anything like the DISK DOCTOR. Indeed, on what other machine is such a program so important?**

**I very much hope that 2.0, or 2.1, or whatever finally emerges, addresses these problems because until they do the Amiga cannot hope to compete as a serious machine.**

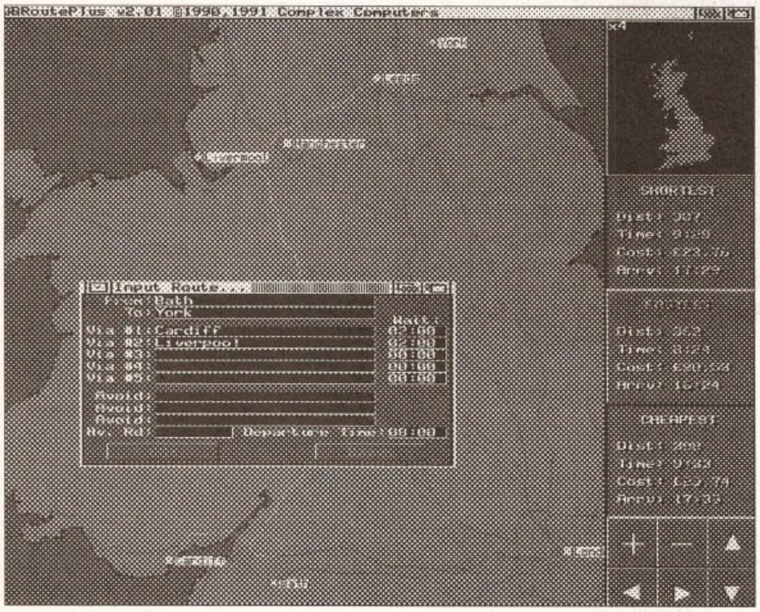
**Colin Miles**
**Hemel Hempstead**

Although Fastfile in Amigados 2 corrects some of the disk directory access problems you mention it's, ironically, not recommended for use with floppies – only hard disks! Instead, would-be disk turbo-chargers should check out *BAD 4.1*, available for around £30 or *Disk Arranger* – a PD equivalent.

I take your point about advertising but surely this needs to go hand in hand with bundling more 'serious' software for the A500.

# A route to suit

## The best route from A to C is not always via B. Jason Holborn finds this out with Complex Computers' new offering: GBRoute Plus 2...




**Select 'New' from the pull down menus and the Route requester appears. You can now enter your starting point and destination along with up to five 'via' locations that you may wish to visit along the way**

I don't know about you, but I'm probably the worst navigator alive. Jumping into my faithful jallopy, even the simplest of journeys can leave me completely confused and – more often than not – totally and utterly lost. Even with a decent map at my side, it doesn't take long before I'm driving around with little idea of where I'm going.

Things have been a lot better ever since Complex Computers released their acclaimed *GB Route* for the Amiga. Released to critical acclaim earlier this year, *GB Route* came as a godsend. Simply by telling *GB Route* where you are and where you want to go, the program reels off the quickest, cheapest and shortest ways of getting there in a matter of seconds. By simply dumping that information out on to paper, you could then take *GB Route*'s advice with you, making your journey a lot more straightforward.

From the very start, Complex made it clear that it was working on a 'professional' version of *GB Route* and – some 10 months later – it has come up with *GB Route Plus 2*. Boasting all the features that made *GB Route* such a success with a host of extras, *GB Route Plus 2* has closed the gap between Amiga route planners and the yard stick of all of them, Next Base's *AutoRoute*.

The heart of *GB Route Plus 2* has remained virtually unchanged from the original, but Complex has worked hard to make the program a friendlier and more powerful program to work with. The original lacked support for B roads, but this has been fixed, so that *GB Route* recommends far more reliable routes. As a result, the amount of data crammed into *GB Route Plus 2* has risen considerably, so it now comes as a 1Mb program.

### VECTOR SECTOR

Like the original, *GB Route Plus 2* comes to you on a single disk with a rather short but sweet manual which describes the program's functions adequately enough. When you first load the program, changes soon become apparent. Gone is the flat user interface of the original and in its place is a very swish Workbench 2.0-like user interface.

The *GB Route* map display has also undergone changes. Instead of the rather aged vector display of the original, *GB Route Plus 2* boasts an attractive filled vector display which uses the Amiga's colour capabilities to their full. The reasons for this aren't purely cosmetic – with the map now displayed in full colour, you get a far better idea of what's what, especially when sections of coastline are also displayed.

For those of you who are lucky enough to own machines fitted with a display enhancer, *GB Route Plus 2* can now be run in high resolution, giving those filled vectors a lot more detail. You can of course run it in high res on a standard monitor, but the eye strain becomes almost unbearable after a while.

### SCREEN SCENE

For those of you who have never used *GB Route* before, the program's main screen is split into three discrete sections. The largest is the filled vector map of the British Isles which is used by *GB Route Plus 2* to display your route. To the right of this are two smaller sections which provide you with all manner of useful information. At the very top right hand corner is a scaled down representation of the British Isles complete with a sort of 'You are here' red rectangle to show which part of Britain is being displayed.

When you first boot *GB Route Plus 2*, the main map display shows all of the British Isles, but this soon zooms in to specific areas once you start asking the program to find routes. If you want to get a better idea of the surrounding area when the main map is in close up view, a selection of arrow gadgets at the bottom right hand corner can be used to move around the map.

> **"It's a fact. More arguments are caused by map-reading than any other family activity. Here's one piece of software which could take the misery out of those trips up the motorway..."**
>
> **Jason Holborn**

### ROUTE WISE

Once you've stopped admiring the user interface, you can get on with the serious business of making *GB Route Plus 2* earn its keep. At the simplest level, all you have to do is to tell *GB Route Plus 2* where your journey is to start and where it is to

---

**BEGINNERS** **BEGINNERS START HERE** **BEGINNERS**

***What is a Route Planner?***

**Based around the award-winning PC program *AutoRoute*, *GB Route Plus 2* is a powerful route planning package which has been designed to help route-going Amiga users travel around the United Kingdom without getting lost. Simply by telling the program where your journey is to start from and where you wish to go, *GB Route Plus 2* will show you the fastest, shortest and cheapest ways of getting there complete with a breakdown of all the routes, junctions and places through which you must travel to reach your final destination.**

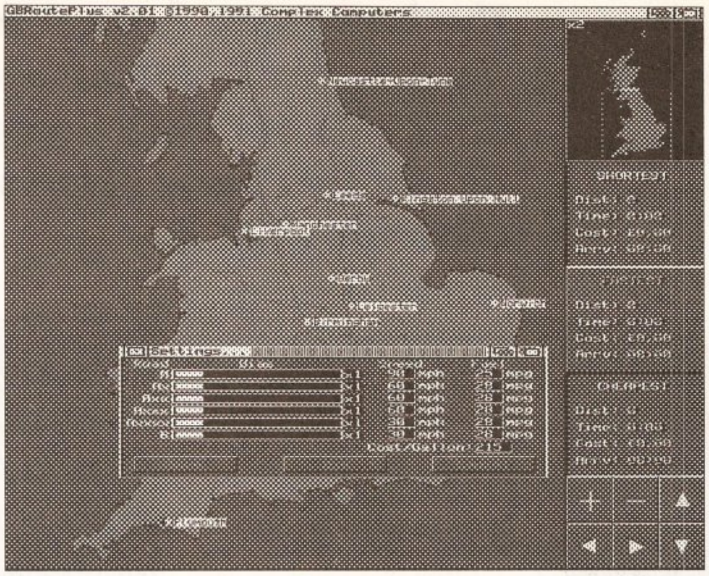
***How does GB Route Plus 2 work?***

***GB Route Plus 2* works using a very sophisticated matrix system which contains all the places, junctions and roads along which you can travel stored as linked co-ordinates. *GB Route Plus* interprets this information to form a vector-based representation of the map data. Although roads are displayed as straight lines, *GB Route* also knows the exact length of a stretch of road, therefore ensuring that its recommended routes are as accurate as possible.**

**When you ask *GB Route* to find a route, the program works by simultaneously following every available route from the destination point until it arrives at your starting position. It then sorts the routes which it has found and displays the cheapest, fastest and shortest. New to *GB Route Plus 2* is 'Gubbins' option which allows you to view this process in operation.**

end. A quick click on the 'Go!' gadget and the program then finds the quickest, cheapest and shortest ways of getting there in one piece.

If you're a company rep, you may not necessarily want to visit just a single location in one journey. You can therefore add a further five 'via' locations which must be visited during the journey. When these are added, *GB Route Plus 2* plots a route which passes through all these locations en route. Journey timing has also been extended to allow you to specify a waiting time at each via location, giving you a far better idea of how long the journey will actually take in real terms.



**GB Route Plus 2 enables you to alter many aspects of how the program calculates its routes including your average speed on different types of roads and the fuel consumption of your own car**

If you've got a specific hatred for certain roads or places, you can now tell *GB Route Plus 2* to avoid these when it searches for a route. This can be particularly useful for avoiding road works and traffic congestion in big cities, making your journey less frustrating. You can also dictate the type of roads which *GB Route* picks when given a choice. You could, for example, tell *GB Route* to avoid motorways unless they are entirely necessary.

On the whole the routes that *GB Route Plus 2* recommends are reliable and I've yet to catch it out. The previous release had a few bugs in its route finding algorithm, but Complex seem to have ironed these out. I often took the advice of the original *GB Route* with a pinch of salt, but I feel confident enough with *GB Route Plus 2* to take its advice over my own driving experiences. Famous last words perhaps?

## PRINTS CHARMING

Lugging your Amiga around with you every time you go on a journey is hardly practical, which is why Complex have implemented a number of printing facilities which allow you to dump the routes it recommends to paper. Two modes are available – map and route printing. Map mode is the most impressive as it literally dumps the map screen in its entirety out to your printer, giving you a personalised map complete with comprehensive details of the route you must take. For those of you with colour printers, it can also output in full colour.

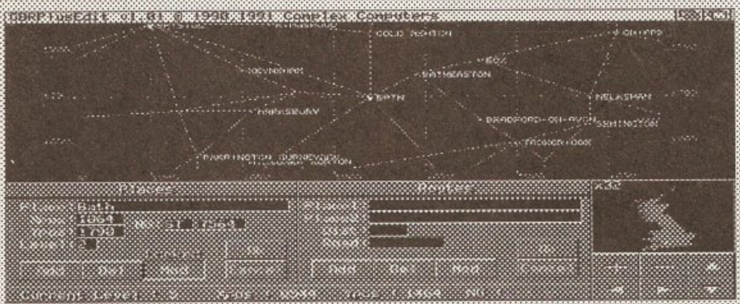
A more usable printing mode is Route mode which prints out the details of your journey as a list of roads, junctions and places, complete with full details of how long it will take you to reach each new item on the list and the number of miles covered.

## CONCLUDING THOUGHTS

*GB Route Plus 2* is a genuinely useful program. OK, paint packages and music programs are a lot of fun, but *GB Route Plus 2* is the kind of program which can serve you in your everyday life. It'll prove particularly useful to anyone who does a lot of driving – company reps and lorry drivers, for example – but its low cost means that any Amiga owner can get in on the act without having to take out a second mortgage.

The original *GB Route* was great, but Complex has so enhanced it, that it's virtually perfect. With the addition of *GB Route Edit*, *GB Route Plus 2* has become one of the most comprehensive and powerful route planners on any machine. Even if you only occasionally take to the roads on long journeys, you'll find *GB Route Plus 2* is really worthwhile. AS

## CLOSE TO THE EDIT



**GB Route Plus Edit is a powerful companion product to GB Route Plus 2 enabling you to keep your copy of the program's map files up to date**

Complementing *GB Route Plus 2* is *GB Route Edit*, a powerful route data editor which – when used in conjunction with the data files supplied with *GB Route Plus 2* – will enable you to keep your copy of *GB Route* up to date. Unlike a traditional map, *GB Route Edit* will ensure that the data which *GB Route* uses is never out of date. As new roads are added and existing ones removed, you can alter *GB Route*'s data so that the program is aware of these changes.

Data can be entered in a number of ways, but by far the easiest way is to enter the National Grid Reference for a particular place. This can be found simply by looking through an Ordnance Survey map, but you can also enter the position simply by zooming right in on the onscreen map and clicking the mouse where the place you wish to enter is located.

Existing map data can also be modified, allowing you to re-route roads, change the importance of a particular place. The priority of a place dictates when *GB Route* displays it in its map window. When you zoom right out, only major cities are displayed with more places being shown as you zoom in. Places have 9 priority levels – the lower the priority, the more important the location. London has a priority of 0 and Road Junctions have a priority of 7, for example. Simply by changing these values, you can put your home town up there with major cities.

*GB Route Edit* is quite a confusing program at first, but you'll soon get the hang of it. After a while, you'll find yourself entering new places and roads in a matter of seconds, but it's worth keeping a backup of your original *GB Route Plus 2* data files just in case you make a complete pig's ear of things.

## SHOPPING LIST

**GB Route Plus 2 .................. £79.95**
**GB Route Plus Edit ............. £29.95**
by Complex Computers
2 The Arcade, Waterfoot
Rossendal,
Lancs BB4 9AF

## CHECKOUT GB ROUTE PLUS 2

**Ease of Use** ●●●●○
*GB Route Plus 2* is so easy to use that you won't even need to peek at the manual.

**Features** ●●●●○
What can I say? *GB Route Plus 2* is packed to the gills with features.

**Documentation** ●●●●○
*GB Route Plus 2*'s manual is an improvement on the original, but still not as good as it could have been..

**Speed** ●●●●○
Even with all that extra map data, *GB Route Plus 2* is still miles faster than AutoRoute. On an accelerated Amiga, routes are found almost instantly.

**Price Value** ●●●●○
When you consider that its nearest rival is more than double the price, *GB Route* is very good value indeed.

**Overall rating** ●●●●○

*If you do a lot of travelling, then GB Route is an invaluable tool...*

## CHECKOUT GB ROUTE PLUS EDIT

**Ease of Use** ●●●●○
The first few hours can be rather confusing, but you'll soon get used to its rather strange ways of working.

**Features** ●●●●○
Everything you need to add, delete and modify *GB Route*'s map data is there in abundance.

**Documentation** ●●●○○
The manual has plenty of tutorials, but there's just not enough in there to make it anything more than reference material.

**Speed** ●●●●○
Considering the amount of data the program must handle, *GB Route Plus Edit* works at an impressive speed..

**Price Value** ●●●●●
Even at £29.95, *GB Route Plus Edit* is a bargain. If you buy and register it with Complex, you can have the editor for just £9.99!

**Overall rating** ●●●●○

*If you own GB Route Plus 2, you'd be a fool not to splash out on GB Route Plus Edit.*

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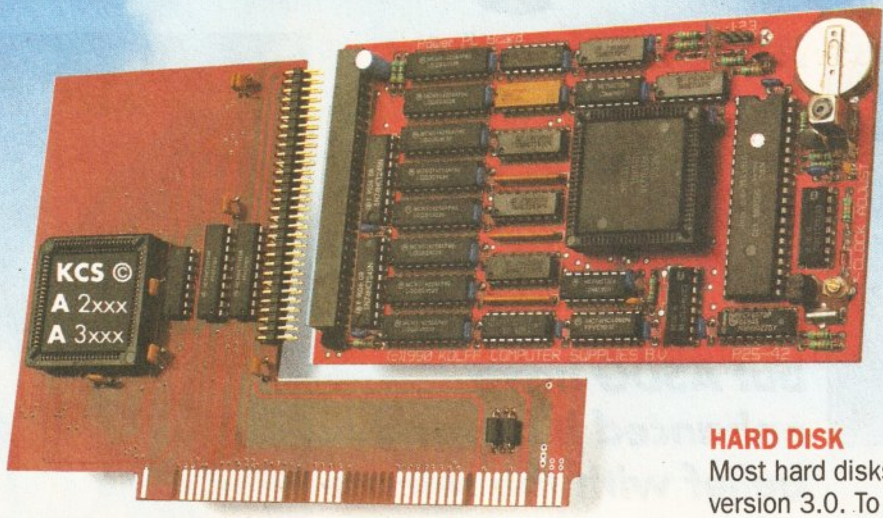



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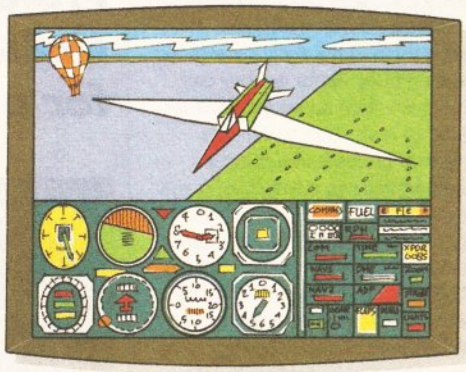
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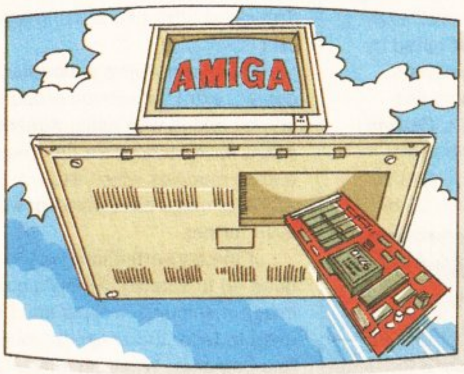
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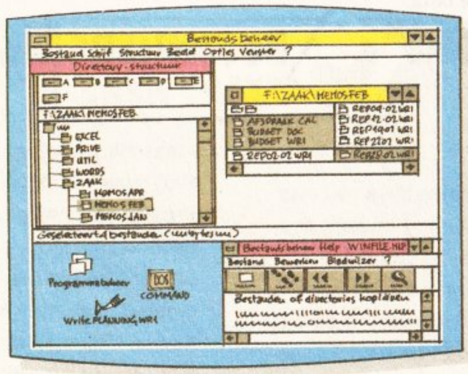
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# The image factory

**Having been an avid fan of the Amiga's graphics capabilities for more years than I dare to mention, I've waited a long time for a truly professional image processing program to be released. At first sight ASDG's package seems like the answer to my dreams, but is it any good? Let's find out...**
**Jason Holborn**

***ASDG's original Art Department signalled the arrival of the Amiga's first truly professional image processing program, but ASDG have enhanced it beyond belief with the release of Art Department Professional. Jason Holborn took it out for a spin...***



***ADPro* can have some fantastic results. The background was created using *ADPro*'s Backdrop loader and the picture was pasted in using *ADPro*'s image composition tool four times using different levels of image mixing, offsetting each by 20 pixels**

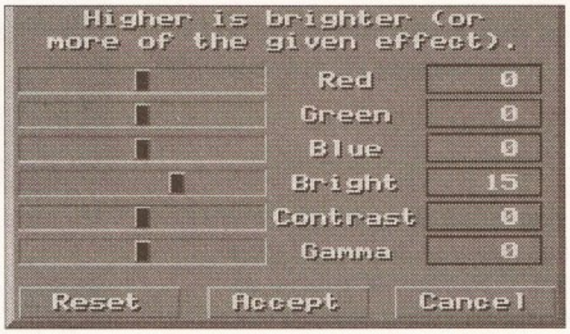
The Amiga's continuing dominance of the low end of the graphics market has resulted in some very fine graphics packages being released for the machine. Developers have arguably pushed the Amiga's existing graphics modes as far as they can go and even HAM no longer provides the kind of resolution and image quality that professional graphic artists demand. As a result, over the past year or so, developers have switched their attention to the latest buzzword in Amiga graphics – 24-bit.

With the continuing success of the Amiga Centre Scotland's Harlequin card and the recent release of GVP's Impact Vision 24 card (not to mention low cost solutions such as Checkmate's HAM-E), it was only a matter of time before software developers switched their attention to 24-bit. Many of the cards come with their own image processing software, but ASDG's ADPro has been designed to bridge the gap between the various file formats used on both the Amiga and other platforms.

Even before the advent of 24-bit graphics, the Amiga was certainly no stranger to Image Processing software (Progressive's PIXmate has been available for years now), but *ADPro* has one advantage that separates it from previous efforts – it's a true 24-bit program. Although it will handle all native Amiga screen modes, the real power of ADPro comes from its 24-bit image processing power.

## BRIDGING THE GAP

At its simplest level, *ADPro* can be used to convert images between a variety of different file formats. Although the files themselves may contain basically the same data, there are so many different image formats around that without the help of a program like *ADPro*, Amiga artists would be unable to use images created on other platforms. Even on the Amiga, the IFF standard for image data hasn't exactly been adopted by all developers. Programs like Octree's *Caligari* and Impulse's *Turbo Silver* use their own 24-bit proprietary file formats which are not compatible with IFF packages.




**The Balance requester enables you to alter the brightness, contrast, gamma content and intensity of red, green and blue data**

*ADPro* supports a wide range of image formats including IFF (and IFF24), GIF, PCX, Sculpt/Framebuffer RGB format, DigiView 21-bit, Turbo Silver Impulse format, DPaint 2 Enhanced (256 colour PC images) and PostScript.

Thanks to *ADPro*'s modular design, extra conversion modules can be added with ease. Already ASDG have launched a number of add-on modules which extend *ADPro*'s image conversion power even further.

If the converted images are not quite up to scratch, *ADPro*'s powerful image manipulation tools can be used to tailor the image to your exact requirements. When an image is first loaded into *ADPro*, the program automatically converts it to pure 24-bit, regardless of the image's original format. This enables *ADPro* to carry out image processing operations on images with the kind of colour resolution that only 24-bit provides. You can of course then save the image in a non-24 bit format, in which case *ADPro* then converts the image for you.

## SURE OF SHELL

The *ADPro* program is really nothing more than a shell from which all image processing tasks are carried out. The real power of *ADPro* comes from its wide range of disk-based modules which are pulled in only when they are required. As a result,

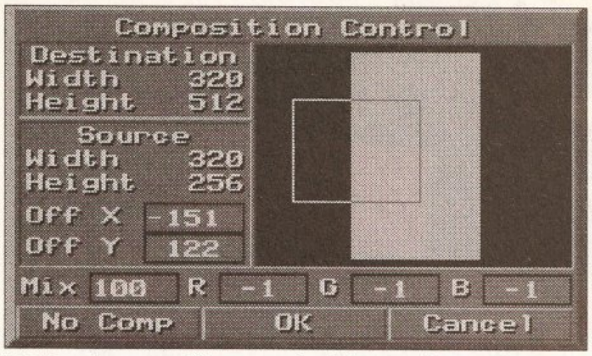
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**BEGINNERS START HERE** — BEGINNERS

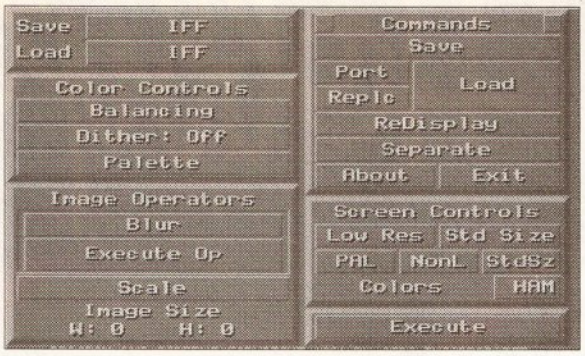
***What is an image processor?***

**How many times have you ever created a piece of artwork in a program like *Photon Paint* and then wished you could alter it in *DPaint*? As you probably already know, although both packages support the IFF format, *Photon Paint* images won't load into *DPaint* unless you're lucky enough to own *DPaint 4* (which now supports HAM). The problem gets even worse when you try to load an image created on another machine (the PC or Mac, for example) into an Amiga art package.**

**This then is where an image processing program comes in. Programs like *Art Department Professional* can convert images between different formats, allowing you to use artwork created in another format on your Amiga. This may sound like a fairly simple process, but true image processing software also gives you extensive control over the images themselves. You can, for example, alter the contrast of an image, its brightness, the number of colours used within the image and a lot more besides, allowing you to tailor an image to your exact requirements.**




**The image composition requester lets you place an image anywhere within the main bitmap, define the mask colour and alter the mix intensity**




**All *ADPro*'s functions are accessed through this single screen**

*ADPro* can easily be expanded and enhanced simply by installing additional modules.

*ADPro*'s modules come in three flavours – Loaders, Operators and Savers. Loaders enable you to pull image data from a variety of different formats into *ADPro*, Operators then take this data and enable you to carry out a variety of different image processing operations on it and then write the resulting image out to disk.

Loaders and Savers aren't just restricted to the reading and writing of image data from floppy and hard disk, however – they can also allow for direct control of external devices such as video digitisers, professional video gear and even frame buffers. As a result, if *ADPro* supports a particular device, you can to all intents and purposes scrap the software supplied with the unit and use it directly from within *ADPro*.

The latest release of *ADPro* (version 1.0.3) includes a couple of loaders and savers which exploit this feature. Among these is a very useful loader which enables you to directly control the Progressive Peripherals and Software FrameGrabber 256 realtime video digitiser from within *ADPro*. With this facility enabled, you can now grab images directly into *ADPro* without having to save them to disk first.

## FRAMEBUFFER SUPPORT

For framebuffer owners, *ADPro* gives you direct control over a number of popular units including the Mimetics Framebuffer and the infamous FireCracker24 card.

Surprisingly, neither Harlequin nor GVP's brilliant IV24 card are supported although ASDG assure me that support for these cards should be with us soon.

Direct control over FrameBuffers is another aspect of *ADPro* which really makes it shine. If you've got a suitable 24-bit card installed inside your Amiga, you can display the images that you create within *ADPro* in full 24-bit colour without ever leaving the main program or having to run a separate image display program.

## IMAGE MANIPULATION

The real power of an image processing program comes from its image manipulation tools and *ADPro* has these in abundance. They range from the usual scaling and cropping of images, to operations that effect the actual image data itself.

One of the most useful facilities which *ADPro* provides is the ability to control the red, green and blue balance of an image, which can be particularly useful when doctoring digitised images.

You can also alter the brightness and contrast of an image, as well as its gamma content. The colour content of an image can also be reduced and expanded, helped further by *ADPro*'s extensive dithering support.

*ADPro* also includes a wide range of more exotic image processing tools. These include colour to grey scale conversion, grey scale to colour conversion, dynamic range modification, horizontal and vertical image flipping, colour and grey scale negatives, video smear compensation (very useful indeed for video work), posterisation and solarisation, isolated pixel removal, image rotation, line art creation and more besides. As they become available, you'll be able to add extra operators by copying the operator files into the appropriate directory.

## SECRET OF POWER

Many of the image manipulation tools which *ADPro* provides are little use on their own. The true power of these tools isn't really obvious until you start using them together. Indeed, imaginative use can result in some quite impressive looking images. Better still, you can automate many multi-process operations by taking advantage of *ADPro*'s well equipped ARexx port.

*ADPro* also supports both three and four colour separations of images. Coupled with its ability to save in Postscript format, *ADPro* can be used to produce files suitable for the printing industry.



***ADPro*'s tiling operator can be used to duplicate a scaled image**



**Such effects as image embossing are simple to create by placing a negative of an image on top of itself offset by a few pixels**

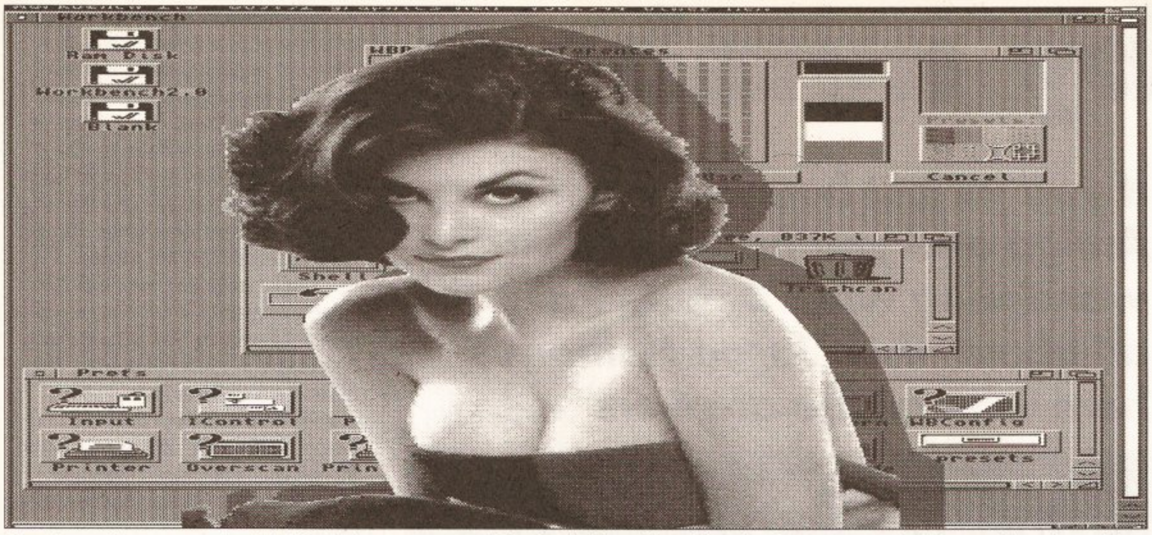
*ADPro* supports three types of colour separation – RGB, CMY and CMYB. RGB separation is not normally used for printing purposes, but it can come in handy when importing images to a system which is not supported by *ADPro*'s image conversion tools.

Both CMY and CMYB separation split the image into separate cyan, magenta and yellow files. CMYB is the better of the two systems as it generates a fourth separation which contains the black elements of an image. When printed, CMYB files produce much better grey tones and a much deeper and more solid black.

## COMPOSITION TIME

Image composition is another very powerful feature of *ADPro*. It enables you to mix images in a variety of

continued on page 21




**Here's another example of *ADPro*'s image composition tools in action. The shadow was created by pasting down the girl's mask image at 50% mix**

**continued from page 19**

different formats within a single image. These images are placed within the main work area at load time and then rendered directly into the image. As a result, once an image has been composited, it cannot be removed.

At its simplest level, *ADPro*'s image composition tools simply take the image and render it directly on top of any image data that may already exist. Even if you define a mask within the image itself, *ADPro* will simply render the image as a rectangular region.

For irregular shaped objects, *ADPro* supports its own form of image masks. To create a mask, you must first load the image into *ADPro* and then render it in 32-colours or less. After this, save the resulting file to disk in IFF format.

Using a package like *DPaint*, you must isolate the sections which you do and don't want by converting the image to two colours. This could be done within *ADPro*, but by producing the mask manually, you have far greater control over what is to appear and what is not.

Once this is done, you must then load the original image back into *ADPro* and then load the mask on top of it.

By telling *ADPro* which colour is to be used as the mask, *ADPro* will remove all the image data from the original file which is not required, leaving a cut out of what is required.

Finally, you must load in the image, on top of which you wish to put the cut-out, and then load the cut-out, defining a new mask to remove all image data but the cut-out itself.

## CONCLUSION

Due to the sheer size of 24-bit images, the demands that *ADPro* makes on an Amiga may well put the program out of the reach of most users.

For starters, the program needs at least 2Mb of fast RAM for it to be even usable and even then you may well find yourself running short of RAM rapidly. Speed is also another consideration. Many operations can take several minutes to complete, so a decent processor accelerator is a must to get *ADPro* running at full efficiency.

Such high system requirements are really only to be expected when you start playing around with 24-bit graphics. In this respect, the kind of people that *ADPro* is aimed at are very likely to have an Amiga which can support these requirements anyway.

These days, large capacity RAM expansions and even processor accelerators can be picked up for just a couple of hundred pounds, so getting into 24-bit is not as expensive as you might first imagine.

Even if you're not involved with 24-bit graphics, *ADPro* will prove to be a real life saver. I've had it installed on my hard disk for a few months now, during which time it has become an essential part of my software collection. Having used PIXmate up to now, *ADPro* has given me all the image processing tools I've ever wanted in one easy to use package.

ASDG have managed to produce what is undoubtedly one of the most important software releases for Amiga artists since *DPaint* itself. And, thanks to its modular design, *ADPro* is a program which should never become obsolete. For graphics fans everywhere, *ADPro* has got to be a must.

## COMING SOON IN VERSION 2

Those of you who visited the recent World of Commodore Show at Earls Court may have caught a glimpse of *ADPro* running on the Commodore stand in conjunction with a GVP IV24 card. Nothing special so far, but what many of you may not have realised is that the version that Commodore were running was actual *Art Department 2*!

Rumours are rife about what the new release will contain. However from what I've already seen of it, it's going to be a pretty stonking piece of software.

At the simplest level, ASDG have improved the user interface, fixing many of the complaints levelled at them by existing *ADPro* users.

For starters, you no longer have to furiously click on the Loader and Saver gadgets to select the type you require. Instead, just a single click on the appropriate gadgets will result in a requester popping up on the screen which contains a scrollable list of all loader/saver modules available. All you then have to do is to click on the one you require.

JPEG is also a feature which will be new in version 2 of *ADPro*. For the uninitiated among you, JPEG is a very powerful image compression system that can load and save images in a fraction of their own size. In many cases, files amounting to megabytes in size are compressed to little more than a few hundred kilobytes without any noticeable loss in quality. AS

## PROFESSIONAL CONVERSION PACK

The modular design of ADPro is so flexible that additional loaders, savers and even operators can be added to ADPro simply by copying the new modules into the appropriate directory. ASDG have already launched a pack containing new loaders and savers for ADPro in the shape of the Professional Conversion Pack.

The pack contains a set of three loader and saver modules which allow ADPro to handle images in TARGA, RENDITION and TIFF format. The Targa family of image formats are used by products supporting TrueVision's range of colour imaging boards and are used widely by graphic houses and service bureaus. Rendition is a file format which will be well known to users of Octree's Caligari Broadcast software, but Rendition-compatible programs can also be found on other computer platforms.

Finally, TIFF is an image format which is widely used throughout the printing and publishing industry. Many high end DTP packages running on the Mac and PC support TIFF format images, making this an ideal choice for anyone involved in publishing. ADPro fully supports TIFF format up to and including the 5.0X implementation.

## SHOPPING LIST

**Art Dept Professional......£199.95**
by ASDG
925 Stewart Street
Madison, WI 53713
USA

**Available from:**
Silica Systems,
1-4 The Mews,
Hatherley Rd,
Sidcup, Kent
☎ 081 309 1111

## CHECKOUT
## Art Dept Pro

**Features** ●●●●○
No other Amiga image processor program even comes close!

**Ease of use** ●●●○○
There's absolutely no way you're going to dive straight in and get the most from the program without reading the manual first.

**Documentation** ●●●●○
*ADPro*'s manual is totally top notch.

**Speed** ●●○○○
Working with 24-bit images requires a lot of processor time, so don't expect instant results. If you can afford a processor accelerator card, then now might be the time to take the plunge.

**Price** ●●●○○
£200 might sound like a lot, but ADPro is undoubtedly one of the most powerful graphics programs ever to be developed for the Amiga.

**Overall rating** ●●●●○

*If your forte is 24-bit graphics or general graphics work, then you must have ADPro. Put simply, it's an essential purchase for all graphics wizards.*

# Paint by numbers

**If you've just bought yourself an Amiga and you happen to be wondering what Deluxe Paint 3 is all about, then Jason Holborn's here with all the answers**

If there is one package which everyone associates with the Amiga, it must surely be Electronic Arts' *Deluxe Paint*. Since its arrival back in the days of the A1000, *DPaint* has remained the choice for anyone wanting to produce quality artwork on the Amiga.

*DPaint* isn't just a favourite with artists though – Commodore likes it too. After the resounding success of the Amiga 500 Batman pack, virtually all Amiga bundles to date have contained *DPaint* in one form or another. Early bundles contained *DPaint 2*, but with the recent release of *DPaint 4*, both Commodore and Electronic Arts now feels the time is right to let all new Amiga owners get their hands on *DPaint 3*.

If you're one of the lucky ones who found an A500 Plus or an A1500 at the bottom of your Christmas stocking, then this article is for you. *DPaint* can be a daunting package to those not used to the kind of power which *DPaint* delivers, but there's no reason to worry for we're here to guide you through its most complex features.

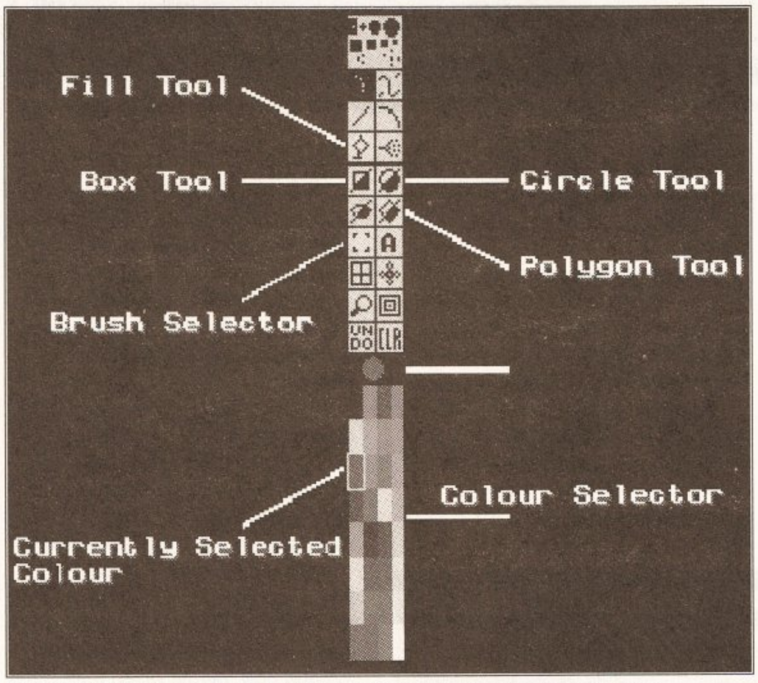
The aim of this tutorial is to take you through *Deluxe Paint* with as little pain as possible. We know you're a fairly adventurous bunch (you wouldn't have bought an Amiga if you weren't!), so we'll dispense with the basics and get stuck into some of *DPaint*'s more exciting features.

There's no better way to learn a package than to use it. This tutorial is an ideal starting block for anyone who's never used a paint package before.

Once you've completed the tutorial, a rather artistic lakeside scene, I'm sure it will encourage you to experiment with some of *DPaint*'s more advanced features. Anyway, without further ado, let's load up *DPaint* and get stuck in...

**1** Once *DPaint* has loaded, you must first tell it which screen mode you wish it to work in. For the sake of this tutorial, select low resolution with 64 colours.

**2** Before we go any further, we need to set up the colour palette of the picture. Click on the colour indicator gadget in the tools strip with the right mouse button and the palette requester will appear. For our picture, we'll need a set of colour spreads in brown, green, cyan, blue and a single yellow (that's for the sun!).




**The heart of *DPaint* is its Toolbox icon strip. Many of the operations described in this tutorial use the icons within this strip**

Start each range by defining the brightest shade in the range. Click on 'copy' and click where the last colour in the range is to be. Select this colour and then click on the 'H' and drag it down by three or four notches. Now click on 'Spread' and click on the first colour you defined. This will then create a range. Repeat this process for all the ranges.

You'll notice that although the palette requester only enables you to define 32 colours, you actually have 64 colours in the toolbox strip. The second set of 32 colours aren't actually true colours – they are simply 'half bright' copies of the first 32 colours. You cannot therefore assign colours to these directly. (See picture 1).

**3** The first thing we need to do is to create the lake. While you're still in the palette requester. Click on the first colour in the pure blue spread, click on the 'range gadget' and then click on the last blue in the spread. You have now created a suitable range.

Next, click on the lower right hand corner of the box tool with the right mouse button and the fill type requester will pop up. Click on any of the blues in your colour spread and the fill type requester will show the spread of colours in the bottom half of the requester.

Next click on the left hand Gradient gadget and then drag out the dither slide gadget to about the position shown in picture 2. Finally, click on the H-B gadget to turn it off and click on 'OK' to quit.

## ANIMATION STATION

One of *DPaint*'s most powerful facilities is its power animation option. With just a few mouse clicks and a few good ideas, you too can create animations that would have put even Walt Disney to shame. Even better, you don't need to be a skilled animator to get started.

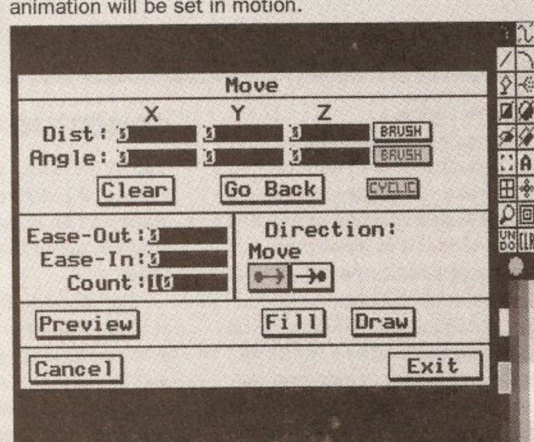
*DPaint*'s animation facilities are evoked from a single 'Move' requester. Simply by defining the path that a selected brush is to move and the number of frames the move is to inhabit, *DPaint* will automatically render the brushes for you, leaving you to work on the more creative aspects of your animation. Let's create a simple animation.

**1** Go to the Animation-> Frames menu and select 'Set #..". When the requester appears, enter 20 and press return. This tells *DPaint* how many frames to allocate for your animation.

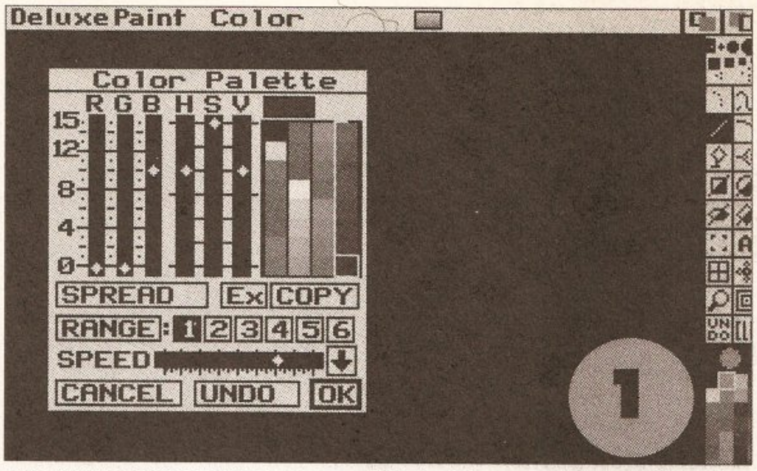
**2** Create a filled circle about three quarters of the way down the screen and then pick it up as a brush and then click on the 'CLR' gadget in the toolbox strip. Next, paste down the brush in exactly the same place from where it was first picked up.

**3** Go to the Animation menu and select 'Move' and the animation control requesters will appear. Enter the following values into the appropriate string gadgets – Y Dist = 100, Ease Out = 5, Ease In = 5 and Count = 20. Once this is done, click on the 'DRAW' gadget and *DPaint* will start rendering your animation.

**4** Once this is done, press '6' on your keyboard and your animation will be set in motion.




**The move requester is used almost exclusively for all animation related operations**




**The *Deluxe Paint* colour palette – use this to define any colours you'll require in the picture which you are about to create...**



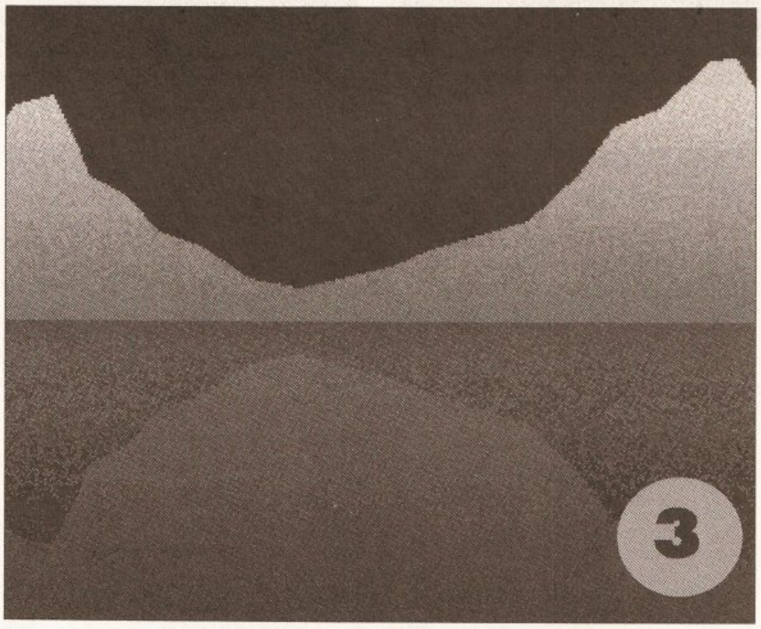

**Create a beautiful lake. To do this, you need to create a good range of blues, to create depth and perspective**

Now drag out a rectangle by placing the mouse pointer half way down the screen on the far left hand corner and dragging out to the far right bottom corner (don't forget to keep the mouse button depressed). *DPaint* will then render the water.

**4** Now we need to add the mountains. First we need to set up a new range by going back into the palette requester as described in stage 1. Now set up a range of greys using the technique described in stage 3.

To create the mountain range, click with the left mouse button on the bottom right hand corner of the polygon tool and then draw an outline of the mountain range as shown in picture 3. To make *DPaint* fill your polygon, you must make sure that the last point you draw matches up with the position of the first. Once again, *DPaint* will then draw in your mountain range.

**5** Now here's the fun bit. Click once on the brush selector tool and then drag out a rectangle which completely surrounds just the mountain range. As soon as you let go of the left mouse button, *DPaint* will pick up the enclosed area as




**This mountain shadow is easily created, by drawing a rectangle around the mountain range and flipping – all in a couple of simple moves!**

a brush.

We now need to flip this to create the shadow on the lake. Press 'Y' on your Amiga keyboard and the select 'HBrite' from the mode menu. Position the shadow, as you can see it in picture 3, and paste it down by pressing the left mouse button.

Already your lakeside scene is starting to look recognisable.

**6** Now we need to add the sky. Once again, we need to create a new range using the cyan spread we created in stage 2. Create the spread using the technique described in stage 3 and then click on 'OK' to exit the palette requester. So far, all our gradient fills have been dithered, but we want the sky to be nice and even. (See picture 4). To do this, click on the Fill tool with the right mouse button and our old friend the fill type requester will re-appear.

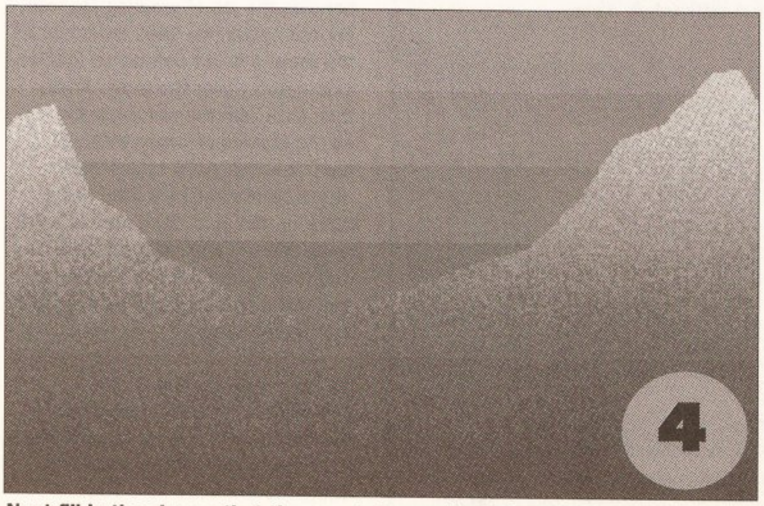
To turn off dithering, drag the dither slide gadget as far as it will go to the far left. Once this is done, click on 'OK' and then click anywhere within the black area which is to be our sky and the sky will be drawn.

**7** Next we'll add the sun. First we need to turn off all colour ranges by clicking on the bottom right hand corner of the circle tool with the right mouse button. When the fill type requester appears, you should click on the 'SOLID' gadget, click 'OK' and then select the yellow we created in stage 2.

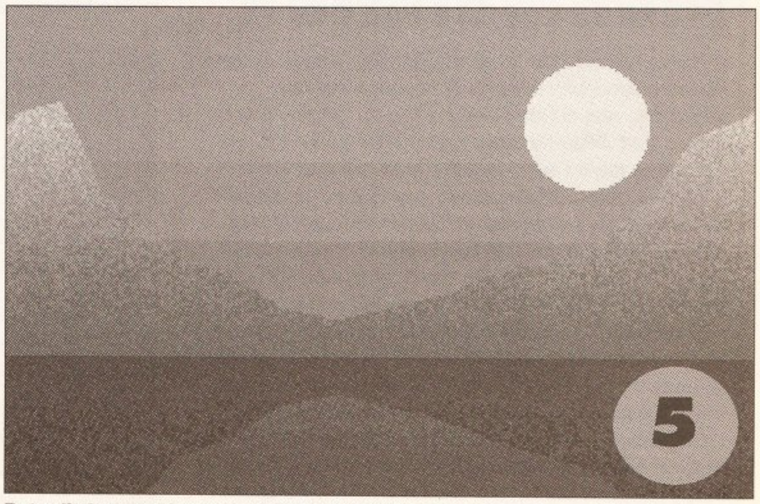
Click with the left mouse button somewhere in the right hand side of the sky and drag out a filled circle about two inches across. (See picture 5).

We now need to add the sun's reflection. Click on the half-brite yellow and then position the mouse

**continued on page 24**



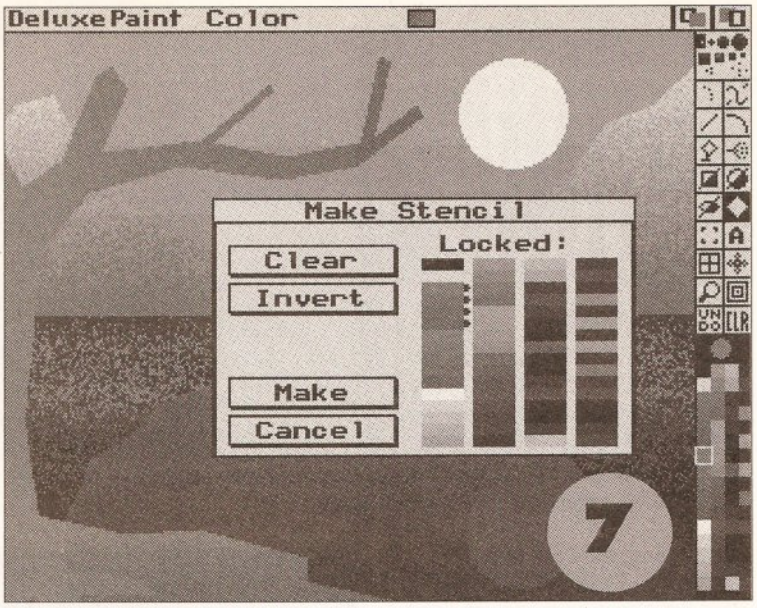

**Next fill in the sky, so that the area between the twin peaks is brought to life. Remember to turn off the dithering so that the sky is nice and even**




**Put a little sunshine in your life. Turn off the colour ranges and drag out a filled circle, selecting the yellow in the colour palette**




**Create another range this time using the vertical spread rather than the horizontal. Now sketch in your tree...**




**The powerful stencil requester ensures you don't draw over the tree trunk. You need to isolate the browns in the colour palette, before adding the leaves**

continued from page 23

pointer where the centre of the reflection is to be and then drag out a filled circle of exactly the same size as the first.

**8** We now have a lake, the mountains (including their shadow) and the sun.

All that remains to be done is to add the section of grass and the tree. We'll start with the grass. Re-enter the palette requester and then set up a range using the green spread. Once this is done, leave the palette requester and then click with the right mouse button on the bottom right hand corner of the polygon tool and the fill type requester will appear. Click on the left hand Gradient gadget and then drag out the dither slide gadget to about the position shown in picture 2. Exit this requester and then draw out an outline of about the same shape as the section of grass as you can see in picture 8. The grass will then be drawn.

**9** Now we need to add the tree trunk. Create another range using the brown spread and then re-enter the fill type requester for the polygon too and click on the centre gradient gadget (this changes the gradient to a vertical spread rather than the horizontal spread that we've used up to now). Once this is done, draw out the shape of the tree trunk remembering to position the last point of the polygon over the first. (See picture 6).

**10** Our picture is almost complete – all we need now is some suitable foliage on the tree. There's a problem though – the foliage is behind the tree trunk. We get around this by using the stencil tool. From the pull down menus, select 'Make' from the Effect->Stencil menu. What you will now see before your eyes is a very powerful little requester which handles the job of creating stencils. For our needs, we need to isolate all the browns in our palette so that we cannot draw over the trunk. To do this, click with the mouse button on all the shades of brown that you have created (you'll notice that they'll be marked by a little black block on the right hand side of each). Once this is done, click on 'MAKE' and then select the filled polygon tool again and draw out an outline of the tree's foliage.

**11** Your masterpiece is now complete! (See picture 8). If you're feeling adventurous, you could add a lot more to your picture including some reeds on the lake bank, a couple of boats and possibly even a couple of islands. Go for it! AS

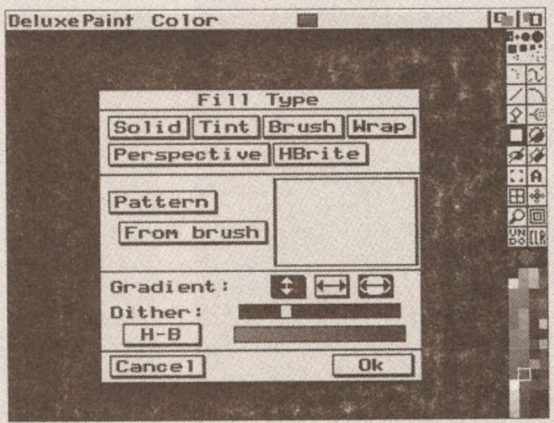



**The finished masterpiece. A natural landscape which Van Gogh would have had a hard job matching.(err...sorry? – Ed.) Now you are free to experiment...**

# Brush Manipulation

**If you've followed the main tutorial, you'll have already played around with brushes (the shadow of the mountains was created using a brush), but you'll soon realise that *DPaint*'s brush capabilities go far beyond the rather basic techniques we have detailed above.**

**For starters, *DPaint* allows you to pick up a brush and wrap it on a solid object. To do this, simply pick up a brush, select a drawing tool that will create a solid object by clicking on it with the right mouse button and then select 'Wrap' from the fill type requester. When you now draw an object like a circle or a polygon, *DPaint* will automatically wrap the brush on to the object, creating some quite exciting effects. Another powerful feature is brush perspective, which was used to create the 3D effect shown in the picture below. Looks good, doesn't it! Even better, it's actually very easy to do. Pick up a brush and then select 'DO' from the Effect>Perspective pull down menu and an outline of your brush will appear on the screen. You can then move the brush in three dimensions using the keys on the Amiga keypad. Once you're happy with its position, a single click on the left mouse button will past ethe brush down.**

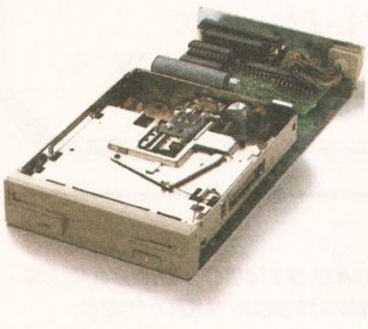



***DPaint*'s power brush manipulation tools let you wrap brushes on solid objects and rotate brushes in three dimensions**

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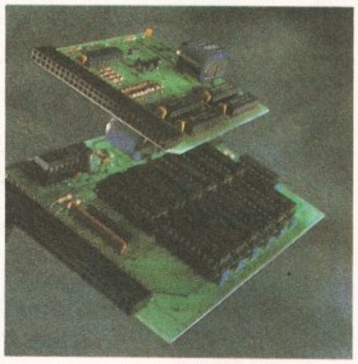
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# Sounding out the samplers...

## Jon Bates discovers ways of making your Amiga sound sweeter than ever before by taking a look at Sound Enhancer and Audition 4



"I've long suspected that you can get better sound from the Amiga and this month we have the hardware and software to do just that. If it's all new to you then check out the sampling guide for beginners."
Jon Bates

Playing back samples from the Amiga is in fact not a very good audio experience. Before 'Shopper Towers' is awash with serious hate mail from many satisfied sampling aficionados, it would be fair to point out a few basic facts. The average human ear can detect sounds from about 20Hz, a few notes lower than the bottom end of a piano, up to about 18KHz, the uppermost harmonics of, say, a cymbal. The fundamental pitch of the top note on a piano being about 3.5KHz, it is the harmonics up to the upper limit of 18KHz which make music sound nice and crisp. Without this capability most instruments, even the heavy duty rock bass drum, tend to sound woolly and indistinct.

The Amiga, in its basic state, is really designed to emphasise frequencies around the 1KHz range. As the frequencies rise above this, its response is not so good and it 'rolls off' in a gradual curve until at 18KHz there is no response whatsoever.

However there is another factor to be taken into consideration. All systems which use digital techniques to reproduce sound – CDs, computers and most synths – use a special filter to smooth out the 'lumps' which can occur with samples, particularly those made at a low sample rate. State-of-the-art professional studio equipment achieves this by several different methods and will maintain the crisp top end of the sampled sound.

All Amigas (except the 1000) incorporate a compromise sound filter which, while removing the nasty noises, unfortunately reduces the frequency response even further. This function is confirmed by the power light dimming and although the sound is cleaner it is nevertheless lacking in presence and high end frequencies.

> "The sound literally jumps into three dimensions."

### SOUND ENHANCER

Up until now, we have had no real chance to find out the Amiga's true sound capabilities and our ears have got used to what is effectively not a very good sound; a bit like a low budget hi-fi with blown tweeters. Enter stage left, the amazing Sound Enhancer. This small hardware box is the result of many hours research analysing the Amiga's sound output and discovering exactly where the holes in its frequency response are.

It complements the Amiga and overcomes its sound deficiencies, by using custom designed equalization circuitry – a bit like the graphic equalizer you may have on your stereo but far more precise. In fact, in its normal mode of operation it produces what is called a flat response from about 500Hz up to 20KHz which is comparable to a decent home CD system.

The Enhancer picks up its power from the serial port using a serial thru connector so that you are still able to use the port for other hardware. The stereo audio outputs from the Amiga plug straight in to the hardware, using the leads provided, and the outputs ideally should go to a good hi-fi system so you can appreciate the full effect. It has only two controls; an enhancer level and a pass/active button. It is recommended that you set the level control at about half way and I suspect the pass/active button is really only there so that direct comparisons can be made by the user or potential buyer.

For the purposes of this test I used three different sets of speakers and two different amplifiers; two of these set-ups are professional studio monitoring kit and any deficiencies should show up with these. The third was a very average domestic hi-fi.

### SOUND EFFECTS

The result was both simple and amazing. The sound literally jumps into three dimensions; it is as if you have been listening to 10 year old cassettes all your life and suddenly been presented with a CD player. What is more there is no detectable noise added to the system by the Enhancer, something which one might expect from a device that sets out to boost upper harmonics. Its effect is more noticeable on samples which contain a full soundtrack rather than individual instruments as the former contain a wider variety of frequencies.

Omega Projects, the designers and makers of this wonder box, set up each one individually and also advise strongly that it is not used on any other audio device but an Amiga – trying to improve your naff hi-fi will probably result in the tweeter coils burning out. It is also a very good upholder of the adage – rubbish in equals rubbish out. If you have a slightly iffy sample, the enhancer will pick out the awkward high frequencies and make it sound even more suspect, but for good samples it does them more than justice. It's clean, it's simple and it's absolutely amazing.

If you use sound from the Amiga in any shape or form you should be buying the Sound Enhancer now and hear what you've been missing. It's a ridiculously

continued on page 29

### SHOPPING LIST

**Sound Enhancer.........£34.95**

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☎ 0925 763946

### CHECKOUT
### SOUND ENHANCER

**Ease of Use** ●●●●●
Couldn't be simpler.

**Functions** ●●●●●
It only has one and that works superbly.

**Documentation** ●●●○○
Not a lot needed here. Adequate.

**Price Value** ●●●●●
Astounding value for the money given the results.

**Speed** ●●●●●
It's all in hardware and therefore no time is spent processing.

**Overall rating** ●●●●○

*A stunning add-on that really makes the sound ship come alive.*

continued from page 27

low price for a high quality product and the best Amiga music add-on I've seen in the past three years.

## AUDITION 4

There are plenty of sampling packages for the Amiga comprising of software and hardware. There is a mutual compatibility between various bits of hard and software and by a careful study of what will work together it is easily possible to put together a system which will work to the best audio advantage.

The first thing to look out for is what port the hardware uses. Although most use the parallel port there are some – like the AMAS – which use the serial port, thus restricting your software options.

Perhaps one of the most successful combinations at a winning price was the Perfect Sound sampling cartridge and the *Audio Master 3* software. Although not developed by the same companies, *Audio Master 3* was designed to out perform the host software of many packages and was compatible with most sampling hardware.

## COMPATIBILITY

SunRize Industries, which developed Perfect Sound, has now launched *Audition 4* which makes claims to outperform *Audio Master 3* while matching it on price. It works with nearly all sampling hardware which uses the parallel port. It boots up configured for Perfect Sound 3 but this can be altered to either Perfect Sound 1 & 2, Sound Master or any generic parallel port sampling hardware.

## SAMPLE EDITING

An important facility of any sample editing software is to be able to select areas of the sound as displayed on the screen and manipulate them easily. *Audition 4* is quite instinctive. Underneath the main edit screen are twelve buttons (called 'tools') with the basic functions which you will need to start off. Any time the cursor is in the edit window it turns into a vertical red line.

## HOME ON THE RANGE

To mark a range of a sample to be either played back or worked on, simply move the red line to the start, hold the right mouse button and drag across the area of the waveform you want to work on. Other buttons will zoom in or out on parts of the sample and play various sections.

A Loop function repeats the playback of a selected range continuously. As it plays you can adjust the range until the loop is in perfect time and fits the intended purpose. This is really rather excellent and saves a lot of time and trouble, trying to get precise sample edit points: eg a guitar riff which you want to use as the basis for piece. The way *Audition 4* does this is very quick and easy and rivals most dedicated professional samplers and earns a definite thumbs up.

## PLAYBACK MODES

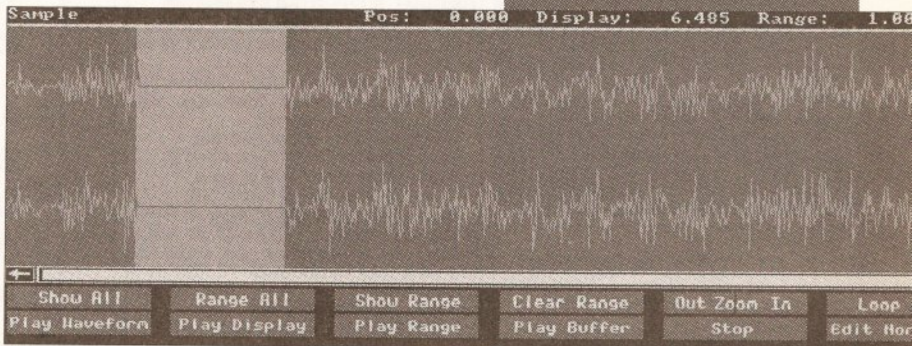
There are two modes of playback. In Hi-fi mode it uses the 68000 chip to play the sound rather than using direct memory access (DMA). In this mode samples made at 56KHz can theoretically be reproduced.

In Non Hi-fi mode, *Audition 4* can still play sounds faster than the conventional 28KHz limit. This is accomplished by skipping every other sample; not ideal but it works.

Most of the functions that relate to manipulating and moving sections of samples are run from two edit menus. The first provides the basic Delete, Cut, Copy and Overwrite functions. The area selected is either put into and/or fetched from a separate storage buffer. Like most of the functions in *Audition 4*, it is very simple to get used to and thanks to the clear documentation, there are no problems in shuffling bits of sound about. There is an option which will edit both stereo channels at once; no more out of sync stereo edits and you can add areas of silence within a sample – this could be used to divide up different sounds and is handy when using some of the functions from the other edit menu. You can also draw waveforms in by hand.

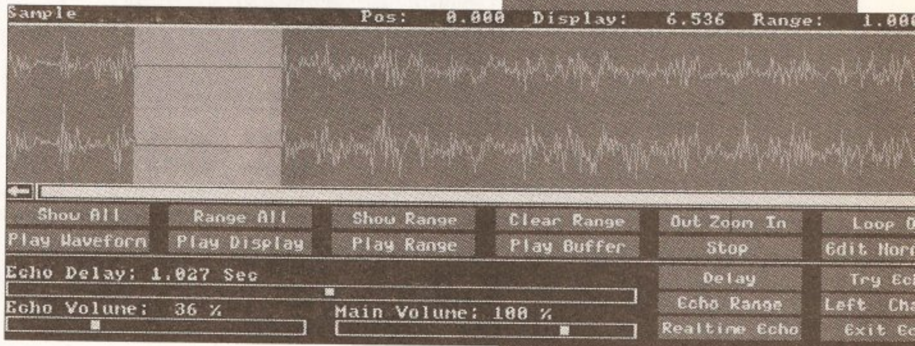
*Audition 4* has many more options and effects in Edit Menu 2 than are available on most comparable pieces of software. Mix, Echo, Fade, Flange, Filter, Invert, Play Backwards, Swap stereo channel and Swap buffer with window display are just some of the features. Most of these options bring up additional control panels. These are generally slider gadgets and enhance the editing capabilities infinitely. Many of them have a 'try' button which will put the chosen effect into operation without permanently altering the data in memory. In combination with a looped sound, these functions work very quickly indeed and make editing and altering samples a very simple process. For example, in Mix Mode you can select the range in which you wish to overlay one sample on top of another.

By the clever use of both sliders and a realtime mix box – based on a dot moved around a equilibrium line at 45 degrees to the X and Y axis. This proves invaluable if, say, you are trying to get a balance between a voice and a backing track. A few moments experimentation and the balance is set up: hit Manual Mix and the job is done. The Fade in and out feature is set up in a similar fashion.




**The main working areas of *Audition 4* showing a sample with a one second gap inserted automatically**

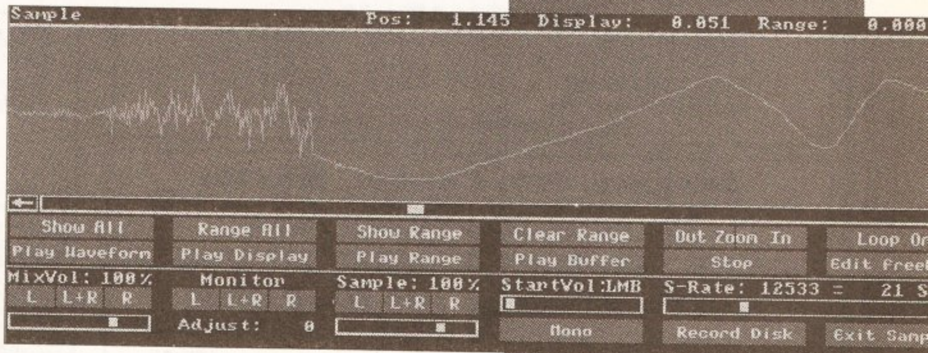
The other options are as varied as they are useful. Echo will take any given section of a sample and subject it to multiple repeats over a range of 0.004 to 2 seconds. The relative volume between the main and echo signal is adjustable; the less the echo signal, the less perceptible the multiple repeats are.




**Adding Echo to a highlighted area; notice the extra function buttons and slider controls for precise editing – all in realtime.**

With care you can highlight a single drum beat or word and subject it to this effect. When the whole sample is played back the effect is contained within it; again the 'try' box saves lots of time in determining the levels. For something a little less over the top, Delay can be swopped

continued on page 31




**This mono sample has been magnified and then adjustments have been made to the waveform by hand to smooth out any 'lumps'.**

continued from page 29

for Echo and here a fast time setting has the effect of thickening up sounds; you too can mimic Ms Minogue's vocal ability!

Both this and the Flange option can be applied to sounds input into the sampler hardware in realtime rather than to the sounds stored in memory. Owners of multi-track cassette machines and the like will probably find this quite a boon when recording. Digital filtering can be also applied to sounds both in memory and input in realtime. There are four different types of filter available; low and high pass, band pass and its inverse, band barrier. All the realtime effects lock up the curser but the arrow keys on the keyboard can be used to adjust the various effects whilst the sound is playing.

*Audition 4* also has a basic sequencer on-board so that you can try out the sounds in the form of a simple sequence before saving them to disk – again a very well thought out idea that saves a lot of time and fiddly adjustments.

It is designed to work best with Perfect Sound 3 hardware; the gain of the signal entering the sampling cartridge can be adjusted from the software and some clever hardware times the samples exactly to avoid skips when sampling. Sampling can be either mono or in stereo using either the left or right channel or both and can be triggered off manually or by setting a volume threshold.

For optimum results, choose not to monitor the sound when sampling it as this drains on the processing power available. When in sampling mode, selected from the menu, an additional set of on-screen buttons are displayed which set up various peripherals. My first attempts to capture sound were rather disappointing as the samples were marred by a lot of hiss and general rubbish but after a few experiments using different levels, adjusted accurately thanks to the built-in volume display meters, this problem was soon cured.

Unusually you can also record over the top of a previously recorded sample and blend the two together – like an audio montage created in realtime – and select the volume ratio of one sample to another. This is in addition to a similar function available in editing mode where samples can be superimposed.

## THE RATE OF PLAY

There seemed to be a fixed upper sample rate for playback. Regardless of what the rate the sound was sampled at, the playback rate never matched it. Although it will sample up to CD speed of 44.1KHz, nevertheless it did not seem to be able to playback at this speed.

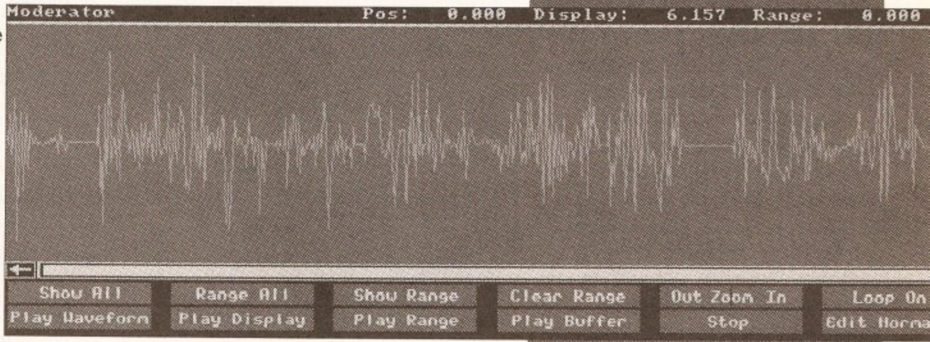
There is a well thought out function which enables you to tune any sample you record to middle C. It will shift samples either by octave, semitones and fractions of a semitone. You can adjust the relative left and right volumes of samples and to get the pitch absolutely correct. There is a tuning tone of middle C – all IFF samples should be initially tuned to middle C by convention – and this is superimposed over the sound of the looped sample. By adjusting the pitch controls it is possible to tune up the samples very swiftly indeed: a quick check with another instrument proved this to be 100% accurate.

Another little proviso for IFF samples is that they should be sampled at rate of 8363Hz. To achieve this without too much problem, *Audition 4* will resample any waveform recorded at this frequency regardless of the original sampling rate. However, the sampling rates are on an infinite sliding scale and can't jump to set rates at all. It would be a good idea to have it default to the IFF rate of 8363Hz for some recording purposes rather than resampling, and fixed sample rates would ensure an easy continuity between one sampling session and the next.

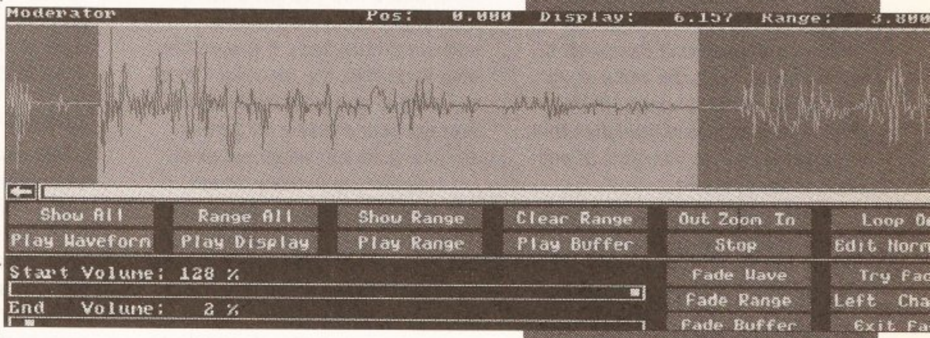
## SOPHISTICATED EXTRAS

*Audition 4* has other sophisticated features which make it quite a package. Disk files can be auditioned; Play File will play a sample without loading the actual waveform, although this only works on non-compressed IFF files.

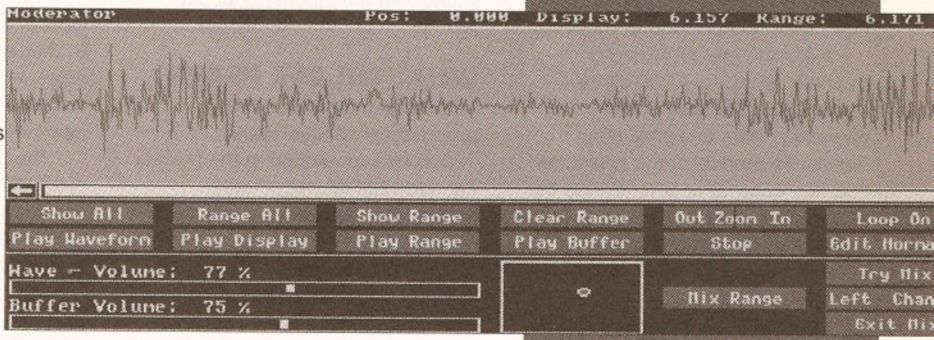
Any sampled data put into RAM memory can be scanned and




**A sample before treatment...**




**...and now after having a fade out edit made on the highlighted section. The height of the waveform diminishes at the rate you set.**




**The same waveform now mixed in with another sample – notice the 'mix-box' to get a balance. This is in fact a mad German text with a superimposed car starting!**

## SHOPPING LIST

**Audition 4** .......................... **£49.95**
**Perfect Sound 3** ................. **£61.95**
Hardware

by SunRize Industries
2959 S. Winchester Blvd.
Suite 204 Campbell
CA95008
USA
☎ 010 1 408 374 4962

**Distributed in UK by:**
HB Marketing Ltd
Unit 3
Poyle 14
Newlands Drive
Colnbrook
SL3 0DX
☎ 0753 686000

## CHECKOUT AUDITION 4

**Ease of Use** ●●●●●
Would suite a beginner as well as the experienced user.

**Functions** ●●●●○
Great number of very useful features.

**Speed** ●●●●●
Extremely fast.

**Documentation** ●●●●○
Clear and concise

**Price Value** ●●●●○
Very competitive.

**Overall rating** ●●●●○

*Excellent features, and would have got the extra point had it not been for the playback anomaly.*

interesting samples extracted with the Scan RAM feature. Sounds can either be loaded into the buffer or window display and saved and retrieved as IFF, Sonix, compressed or raw data formats. You can also get print out of the waveforms.

*Audition 4* is a logical progression from both *Perfect Sound 3* and *Audio Master 3*. Not only is it very fast but it also only occupies 100K of memory space.

The software comes with a separate disk of samples plus additional public domain samples in raw data file form and there is also a juke-box style Play Disk feature.

Apart the odd quirk on the software's playback and sample rates, its editing and sampling features are both first rate and easy to use. Its real bonus is the ability to test nearly all the edit and sound processing functions before committing yourself to altering sample data permanently. AS

## JARGON BUSTING • JARGON BUSTING • JARGON BUSTING

**Anti-Aliasing** – Removing unwanted noises and harmonics from samples.

**Direct Memory Access** (DMA) – The method by which the Amiga converts digital to audio data in its sound chip.

**Flat Response –** A sound reproduction system which does not emphasise any part of the audio spectrum, giving a very accurate picture of the sound without colouring it at all.

**Frequencies –** The pitch of a sound is measured in cycles per second (not to be confused with sample rates). On a piano, the note A above middle C is set at 440 cycles (440Hz). However there will be many more frequencies present which give the note its tone.

**IFF –** Interchangeable File Format. This applies to various sorts of files on the Amiga; here we are referring to sample data which can be used by several different programs.

**Quantization –** Smoothing the gaps in the sample between one sound 'slice' and the next.

**Roll-Off –** The lack of response of a sound device to a band of sound frequencies: expressed in decibels per Octave.

**Sample Rates –** measured in kilohertz (KHz). The number of times (X 1000) a sound is sliced up per second.

**Sonix –** A popular program that can create sounds and sequence samples, saving the data in it's own format.

# Sifting through the techno-babble

There's an awful lot of techno-babble bandied about when it comes to samplers and sampling. In fact it almost rivals the world of up-market hi-fi when it comes to the amount of figures and statistics that are attached to the literature of any piece of sampling kit.

At the end of the day, of course, it does come down to one thing – does it sound OK to your ears with the equipment which you are using?

### SLICES OF SOUND

Having said this, there a couple of things to bear in mind before you throw caution to the winds and let fly with a wad of hard earned cash.

Sound sampling, put in simple terms, takes digital pictures of sound. To do this, it slices the sound up at a rate of so many thousand slices per second; this is where we get the term 'sampling rate', usually expressed in kiloHertz.

A sample rate of 4KHz, for example, is taking 4,000 digital sound slices per second and converting them to digital information. To reproduce the sound, all that has to be done is to reverse the process; run back the sound pictures at the same rate and convert them from digital to analogue sound.

Your Amiga is very well equipped to perform the latter operation without any additional hardware. By using part of the internal sound chip to convert the digital sound back to good old electrical currents, the Amiga is able to play back samples and cunningly direct them to four output channels, two left and two right; that's how you get a stereo sound output from the phono sockets on the back. If it were not able to do this, the reputation that the Amiga has for far better than average sound tracks for games, sample disks etc would not exist.

However, to actually create samples, you need the additional hardware which will either plug into the serial or parallel port. There are two main factors which determine the quality of the sound. The first the the sampling rate, the second is the detail of the data recorded.

There is a handy rule-of-thumb guide which can be applied to sampling rates. It so happens that the highest frequency which can be reproduced by any sampling rate is about half of that sampling rate. By way of illustration; a sample rate of 20KHz will be able to reproduce a sound with a frequency of about 10KHz.

### WHAT THE EAR HEARS

At the beginning of this article, I talked about various sound frequencies in relation to the human ear and musical instruments. Bearing this in mind, you should be able to work out that a sampling rate of 20KHz is reasonable but not an ideal rate as the human ear can hear up to about 18KHz, which would imply that you should be using a rate of at least 36KHz. However you can compromise and get away with sample rates of 16 to 20KHz quite happily for most purposes.

CDs use a sampling rate of 44.1KHz, which goes a long way towards explaining the high quality sound which they reproduce; DAT (standing for Digital Audio Tape) can work at 48KHz which gives even more faithful reproduction.

### SPEED OF SOUND

Some sampling hardware boasts of sample rates of 56KHz and beyond which will reproduce sounds well beyond the capabilities of the human ear and most conventional speaker systems; it is not particularly of any use to you or I (only to the dog and any bats in your locality). The higher the sample rate, the greater the amount of data generated and the less time you have available to sample with.

The other prime factor in the sampling game is the number of bits used in sampling. Another way of looking at this is amount of detail which is logged about each sample.

The most usual number of bits used in the Amiga sampling world is 8; that is to say that each detail is noted in words of 8 bits which is sufficient to give an accuracy to the nearest 256 part.

The more bits used in noting down the detail, the more accurate the audio picture will be – using 16-bit sampling will give an accuracy to the nearest 655,000.

The trade off is that 16-bit sampling is very much more memory intensive and anyway, the Amiga is only capable of converting digital samples back in 8-bit language. Even if you had bolt-on sampling hardware which worked in 12 or 16-bit, it would have to be reduced to 8-bit for the Amiga to play it back.

### BACKGROUND SOUND

Sampling literature will usually mention quantization and anti-aliasing. When a sampler is busy slicing up sound and converting it to digital language, a fraction of a second of the sound is missed from each sample – the gap between one sample and the next. This would result in a nasty noise, if not treated.

A rather smart routine called quantization looks at one sample slice and the next and smooths out the gap – if you like it is guessing what that gap contains. A good quantization routine goes a long way to improving the quality of samples.

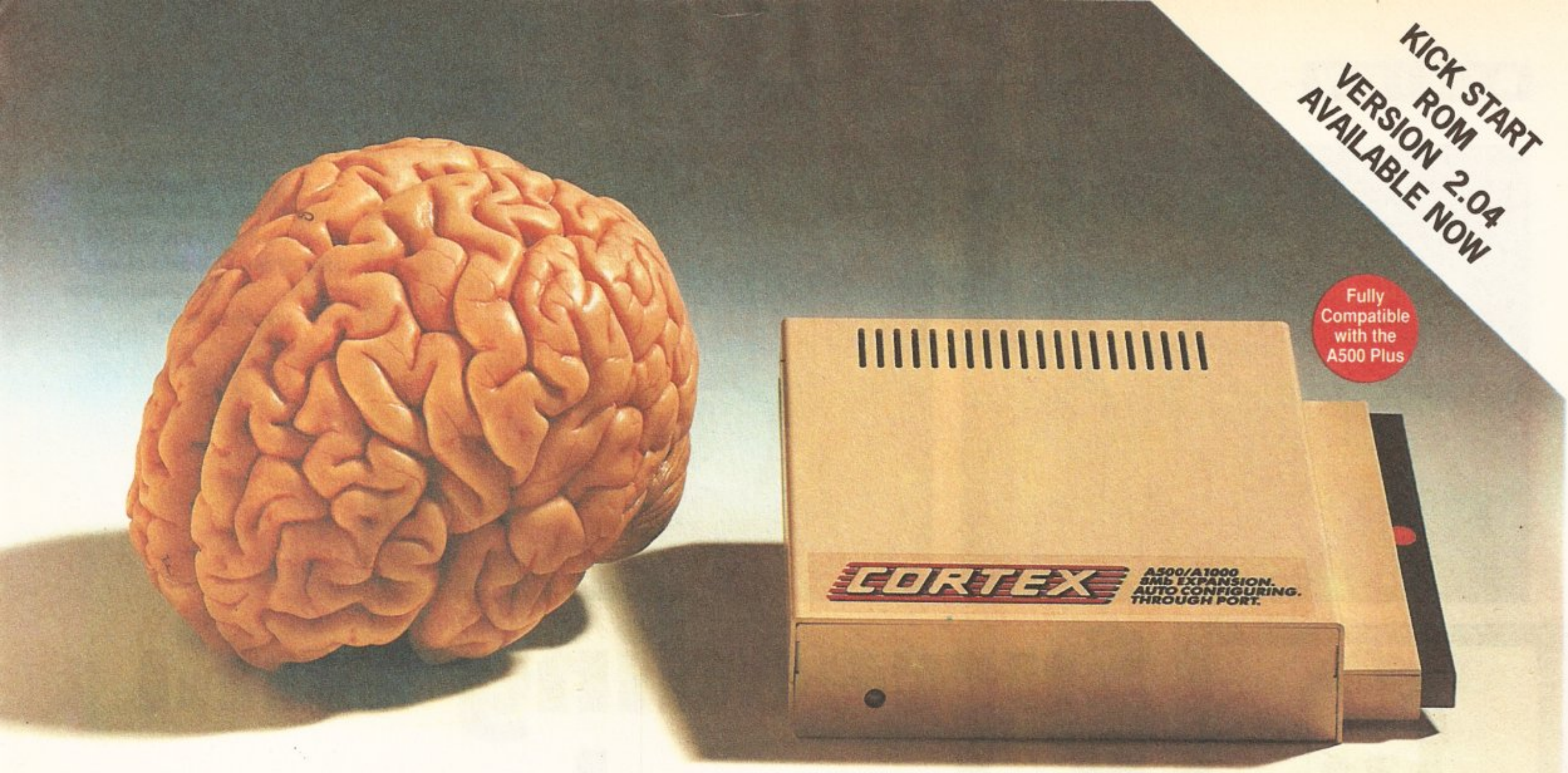
Anti-aliasing is the removal of unwanted harmonics which may have been created by quantization and it is usually caused by sampling high frequencies at low sampling rates.

Most sampling software has some sort of metering which tells you the strength of the signal you are about to sample and it is important that you strike the correct balance between having too high a level of sound – which will result in distortion, and too low a level – in which case the background noise could dominate the sample.

### SHOP AROUND

At the end of the day it is really down to your ears but remember that what may sound good through a Commodore monitor may well not sound so wonderful through a decent amplifier and speaker.

The best bet is to shop around and listen carefully to all combinations before you shell out, fore-armed with a little knowledge, of course. AS




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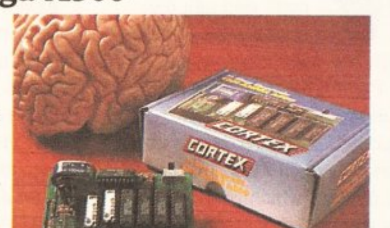
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NEW

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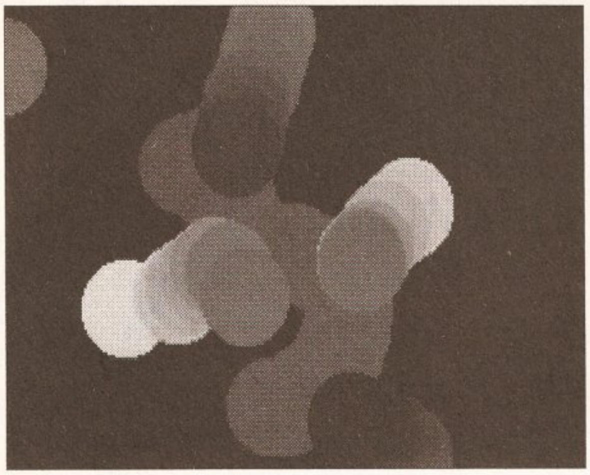
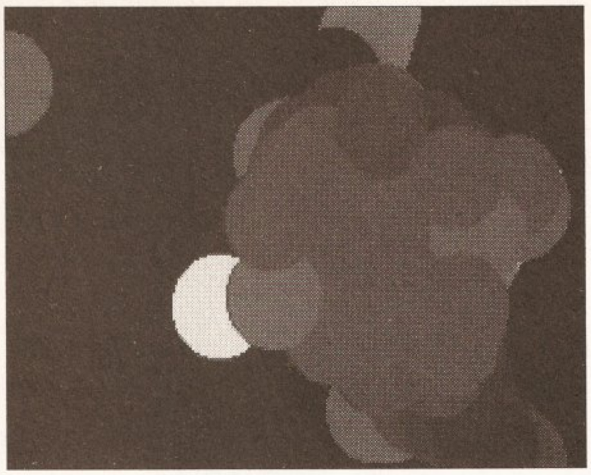
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**Mixing colours *DPaint IV* style. Here, a trick learned from high end graphics workstations is illustrated. Now you can mix colours as you would using a more traditional medium, such as watercolour or oil**



**"This month, I'm presenting Electronic Arts' latest version of *Deluxe Paint IV*. Can it really be any better than last time? Read on and see."**

**Phil South**

# Succeeding with flying colours

## *Phil South dives into the newest version of the world's most popular Amiga graphics program*

Wake any Amiga owner in the middle of the night and ask him or her what graphics package they use, they'll say *Deluxe Paint*. Like it or not *DPaint* is a standard, and how much of a standard is easy to measure. For example notice I just said *DPaint*, and not which version? Nobody says which version of *DPaint* they use, as it's always assumed that the newest version is being talked about.

*DPaint* I and II were stunning, of their time, and there wasn't much to match them. Many bought their Amigas on the strength of a little play with *DPaint* and a look at the Juggler demo. But things have moved on. *DPaint* III took a lot of beating with its halfbrite modes and animation. But there was always one thing that *DPaint* couldn't do, and that was HAM mode, meaning that *DigiPaint* and *SpectraColor* (née *Photon Paint*) were kings of the hill. Although *Deluxe PhotoLab* made a few little inroads into HAM country, it couldn't compare with the might of *DigiPaint*. What the public really wanted was a real HAM version of *DPaint*.

Now they have it, in the form of the newest version of this most famous Amiga paint program, *Deluxe Paint IV*.

### WHY HAM?

Jay Miner, the designer of the Amiga's custom chips, was once asked what possessed the team to put Hold And Modify mode into the finished Amiga computer in the first place. He said that it just seemed like a neat trick, but in fact HAM was almost taken out of the design at the last minute, because they thought nobody would ever use it. Aren't you glad they did leave it in? Where would the Amiga be without those exciting HAM ray tracing packages or paint programs?

HAM modes are favourites for painting and the reason is simple. When you can choose from a palette of 4096 colours rather than 32 or 64, you can really paint. Any shade of colour is at your disposal, so you can shade and soften an image to your heart's content. Subtle gradations of shade are essential for imitations of real life colour, like the kind of digitised images you get with gizmos like NewTek's *DigiView Gold*. The tones in a face number more than 32, that's for sure.

HAM does this magic by basing the colour of the current pixel on the last pixel on any one scan line. This accounts for the slightly fringed effect you get with HAM pictures.

### NEW STYLE FOR THE NINETIES

The most obvious changes to the system are cosmetic. The program looks more stylish, and works more efficiently. It's a *DPaint* for the 90s, and it shows. The requesters and toolbox all have that 3D, Workbench 2-ish look about them, and this is an obvious style point. 3D is in, flat is out. HAM is in, 32 colours only is out. Less of a program, more of a fashion statement!

The program works with all the normal modes, just like the other programs did. So you have any amount of colours from 2 to 32, and any resolution from lo-res to hi-res interlaced. There is also another mode called 64 colour "halfbrite", where the same 32 colours of the palette are used again at half the brightness to double the available colours. You also have the option of working in overscan, where your picture goes right to the edge of the screen, and this is useful if the graphics you are preparing are destined for video work.

The major changes to the regular flavour resolutions are the menus. Users of *DPaint* III will recognise some of the menus, but many have been added.

The *DPaint* IV HAM mode tries to get around HAM fringing by scanning each brush to avoid some of the blocky qualities you get in other HAM programs. Some new effects have been added to take full advantage of the new range of colours, like transparency and process.

The animation features of the program have been greatly enhanced, and this manifests itself in a few key changes to the system. One is the addition of a special VCR style control panel for animation, allowing you to play and edit animations with simple mouse clicks rather than the complicated menu options. The other new features are the LightTable option, morphing, colour mixing, new ranges and fills, new stencil functions, plus the ability to mix brush colours with those already on the screen, and even load 256 colour ILBM files from the PC version of *DPaint*!

### THOSE FEATURES IN FULL

The new animation features take *DPaint* IV into the domain of professional animation. How the original design of *DPaint* expected us to do proper animations without being able to see the previous frame, I don't know. But animate we did, and as *DPaint* was the only way to do it for a long while, we put up with it. But pro animators weren't convinced, as they were used to better things. Now perhaps we'll get a few more into the fold.

*LightTable* enables you to see the last animation frame under the current one, as if the frames were cels on a real light table. This is a feature which made the Disney Animation Studio (See review *AS* 1) such a good bet for animation. When you move from one frame to the next, you see the previous frame as a lighter version underneath the current page, so you can match parts

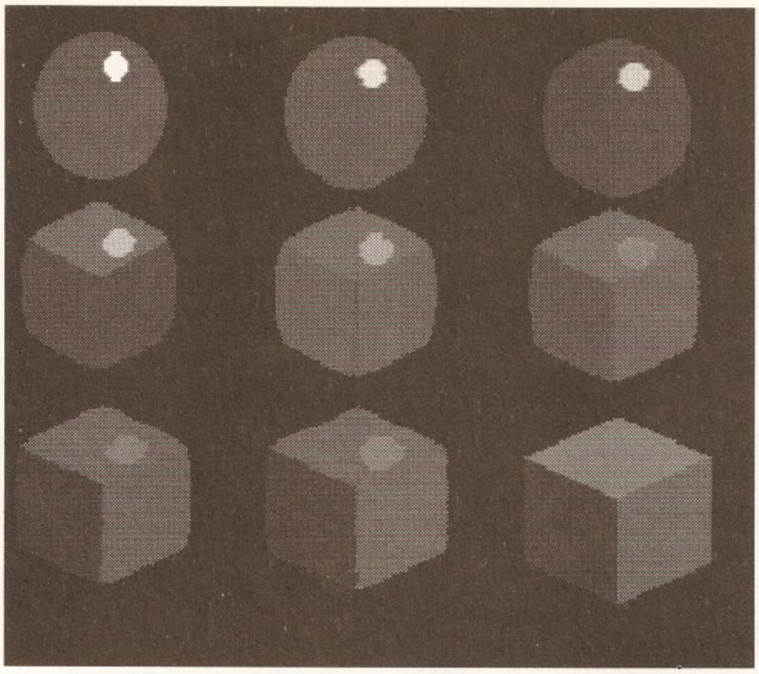
of the animation on the current page to that which has gone before.

An interesting addition to this range of animation tools is an excellent feature called "morphing" which tweens (fills in the shapes in between) two different shaped brushes. The current brush is first saved to a spare location. Then another brush is made by drawing a box or freehand line around a shape. The 'morph' menu is then selected and the user is asked how many steps the transformation should take. When this is selected, the brushes are cross faded, that is to say one size and shape is faded out and another size and shape faded in. This enables you to turn all manner of objects into other objects, and although the effect is often not quite what you'd expect, sometimes it really doesn't work, but it's always gripping to watch it happen. The best kind of morphs happen between objects of similar size, colour and shape, although some good fun can be had transforming objects with no common ground, like King Kong and the Empire State Building. Once the morphing is performed, you then have an animbrush on your pointer which can be animated to morph between those two objects on cue.

In the colour mixing and palettes stakes, you're looking down the sticky end of one part of the new program. It is a radically different slant on the old routine, although it's all a bit strange at first. There is a huge blank area on one of the requesters, and it's here that you can mix the colours as if they were a palette on a watercolour set. Just pick up one colour, spread a thick wodge of it on to the mixer. Then take another colour and blend the two together on the surface. New colours appear in the mix, and to select the new colours as part of your computer palette, you use the PICK control to point and shoot at the hue you're interested in.

This flexible arranging of colours extends to the choosing of your ranges, as you just pick up a colour from the thousands available and plonk them on the palette. When you pick a colour up, the square with the colour on it gets picked up like a brush and allows you to position it on the line containing your colours.

Ranges and fills are a lot more flexible in the new program, and the effects you can get with filled circles and squares are obviously lessons learned from older, more sophisticated programs like *DigiPaint*. This manifests itself especially in the circle fills, which enable you to place a highlight anywhere you want in the circle, and use a range which makes it look as if there is a light source pointing at a sphere rather than just a mere graduated circle.



**It's easy to morph between two objects in *DPaint IV*, and although the results are impressive you have to choose your subjects**

The spreads of colour you can achieve are very exciting. These can be created just by inserting the colours which the spread has to touch along the way. After that the spreads are carried out automatically; a very neat trick.

The stencil functions have been enhanced too; hardly surprising in view of the new HAM mode. The stencil in the previous opus relied on fixing a specific colour or colours, and in HAM this is impossible. So it's been made possible for an area to be stencilled too, rather than just the colours involved. This means you can insert brushes behind bits of previously drawn art without any problem.

The HAM mode brings effects to *DPaint* which were previously impossible due to lack of colours. Mix brush, for example, is an idea where you have a brush on the end of your pointer, and you plonk it down on to some other graphics. Unlike the other modes where you can easily see through or stamp the brush on top, this mode makes an attempt to mix the colours of the brush and the background. Although you can use this new brush mode in all resolutions, it's most effective in HAM as the colours mixed can be as close to the originals as possible, and not just the nearest in the available palette. You can also load and save palettes from other pictures without having to load the pics.

You can now load 256 colour pictures, like those in the 256 colour IFF standard used in the popular version of *DPaint* for the PC. The neat thing about 256 colour pictures is that they can mimic true colour images, like 24-bit pictures. These may have a palette of over 16 million colours, but they can only usually show around 256 of them on the screen at any time. The PC's VGA graphics standard is like this, and so if you have any pictures in this format you can now load them up into HAM mode and look at them. You could download some really good PCX flavour PC pictures from Bulletin Board, convert the pictures to IFF 256 using *Art Dept Professional*, and then just load them into *DPaint* for treatment or pinching their palettes etc.

As well as all this, there is a more sophisticated anti-aliasing routine in the program, which works on all resolutions from lo-res to HAM. This smooths off the corners of the bitmaps by adding in softer tones between hard lines and dark backgrounds.

## SPECIAL EFFECTS

The transparency and Process tools are very sophisticated, especially in HAM mode, they add a whole arsenal of tools for you to improve your graphics and animations.

A ghost image of your brush enables you to create all manner of transparent and mirror effects with the minimum of effort. Shadows and other effects are also possible, and using the stencil effect you can add things like this under already existing graphics without disturbing the composition.

## REQUESTERS AND TOOLS

The tools in the new program are pretty much the same as they always were in the old style *DPaint*, but obviously there are many more features built in now.

The palette tool is a bit of an oddity. As I said, the whole layout of the tools on the screen is the same as in the original *DPaint*. To keep this the same the new HAM palettes have to be squeezed into the space left by the normal palette. This is

## SHOPPING LIST

**DeluxePaint IV.................. £89.99**
by Electronic Arts
11/49 Station Road
Langley, Berks
SL3 8YN
☎ 0753 549442

## CHECKOUT DPAINT IV

**Ease of Use** ●●●●●
One of the easiest and most intuitive programs on the market. I'd rate it a close second to *DigiPaint* for HAM handling, but it scores high for its other modes.

**Speed** ●●●○○
Fast in normal resolutions, but not too shabby in HAM either, which is no mean feat. Constant anti-aliasing of brushes slows the process down, but otherwise clips along at quite a pace.

**Documentation** ●●●●●
The manual is first class stuff. Slick and easy to read with lots of tutorial material and pictures to help you along the way, and even colour illustrations in places!

**Graphics Handling** ●●●●●
Accepts all Amiga resolutions and page sizes, enabling you to create graphics for almost any application you can think of.

**Text handling** ●●●○○
Enables you to use any Amiga bitmap font, including ColorFonts without having to run a colorfont handler program first!

**Tools** ●●●●●
The regular range of tools available in the other *DPaints*, but now with improved requesters and easy colour mixing. The palette requester could have been shaped up a bit.

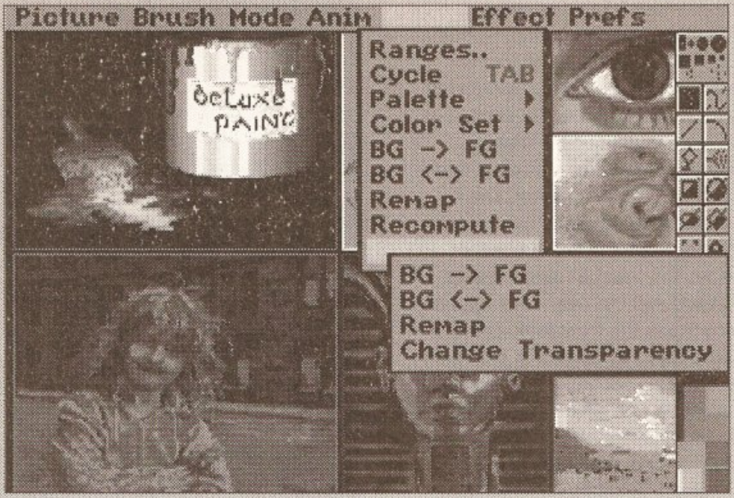
**Demos** ●●●○○
Not as wealthy in demo material as the previous versions, although some very nice pictures on the disks for you to view and play with. I would have liked a lot more in the way of new pictures though, rather than rehashed versions of old stuff.

**Overall rating** ●●●●○

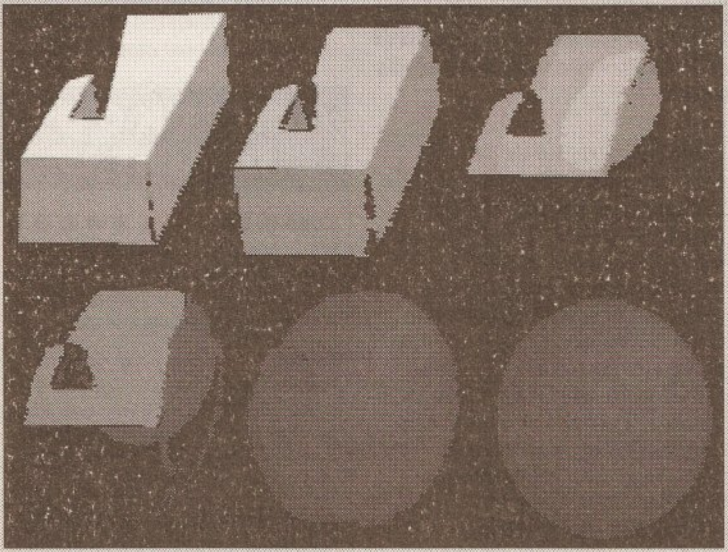
*A top notch product which does nothing to damage DPaint's reputation as the industry standard bitmap painting package. Could steal a bit of thunder from the other major HAM players, though.*




A 256 colour picture – to load such a picture from the PC version of *DPaint*, you'll require a file transfer utility such as Dos2Dos or CrossDOS




In HAM mode, you can view pictures with different palettes all on the screen at once. To achieve this, the pictures must be saved as brushes



Morphing – to avoid a "crossfade" effect and create an object which mysteriously metamorphoses, palettes must be about the same size

silly, and why the design didn't include a palette selector using a trio of colour squares (like all the other HAM paint packages) I really don't know.

If the palette tool sounds goofy, the palette requester is another bone of contention. Folks used to the compact sophistication of the usual *DPaint* palette requester are in for a bit of a shock.

## PROS AND CONS

Improvements to a classic always run the risk of destroying that which they're trying to enhance. On balance the authors have improved far more than they've destroyed. On the up side you now have HAM mode, and a batch of other effects and enhancements. On the downside you pay for this extra power in memory and speed. Obviously if you're doing more with the same hardware you are going to be running slower, and the animation side suffers from this the most, although the compression option does improve speed a little.

Most things seem to take an age to render, but this again is a problem you'll either have to get used to or buy an accelerator.

Some of the new requesters are lousy too, and, this is either my own bias in favour of the devil I know, or a flaw in the way they're designed. But all in all, it's worth the shortcomings to have access to all this power.

## CONCLUSION

So, they've bolted on a HAM mode and improved the cosmetics of the program, but the speed has suffered a little. Was it worth it? At first, I thought not. But after a few weeks of having the thing hanging around on my system, I've been converted. I think it's the best thing since sliced bread, and frankly I can't think of a single reason why you shouldn't buy it or upgrade.

Sure, working in HAM is a little slower than you'd like, if you're used to the old *DPaint*'s plain 32 colour speed. But think about it. You have the whole spread of 4096 colours to play with, and in this age of 16 million colour graphics boards that's the LEAST you can expect to have on your system. Now you can load ray traced images and alter them. You can take in high quality HAM mode digitised images and treat them too.

I still have reservations about some of the new tools and how they fit into an old toolkit design, but I've decided to let that lie. *DPaint* is a good program, and, all round, one of the best art packages you can buy.

## DPAINT IV TUTORIAL

To demonstrate some of the new features of the program, I decided to think up some applications where you could:

### 1. MIX

You can mix colours in the palette, but you can also mix colours as you paint. This gives the effect of painting with a medium which takes some of its colour from "paint" already on the surface. This is a process familiar to painters in oils or watercolours, but never before has this been available in a computer paint program, to my knowledge.

- **a** put a blob of paint on the screen
- **b** and you can put another colour on it and squidge it around...
- **c** don't go too far or you'll always get grey, like real paint.

### 2. MORPHING

When morphing you must choose your subject carefully. For the picture to blob around and metamorphose, it needs to be in a similar palette and roughly the same size. If not, then the effect is more like a simple crossfade in a video, and as such not as interesting as a shape which moves around and becomes something else.

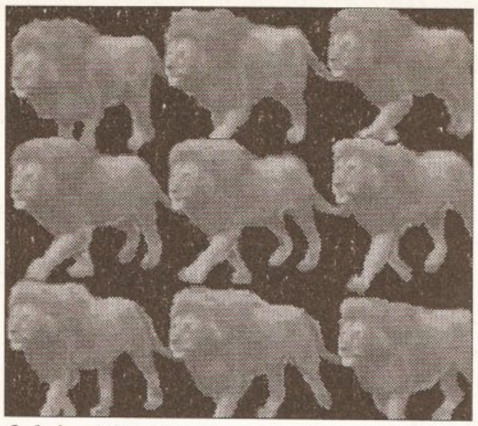
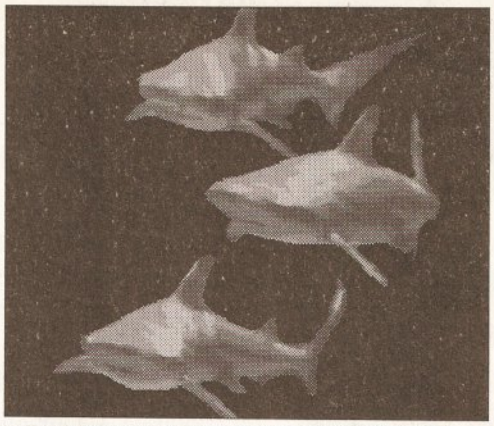
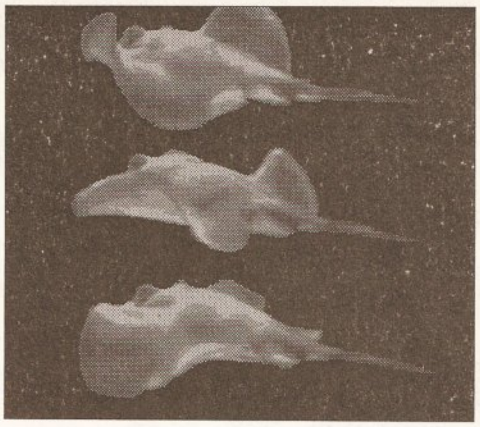
So use brushes which have the same palette, and ensure that the sizes of the brushes are not larger than 250 pixels across, otherwise results can be a bit 'unpredictable!'

## A POTTED HISTORY OF DPAINT

Dan Silva originally created *Deluxe Paint* for the PC, and it was just a program for his own use when he worked at Xerox's Palo Alto Research Complex. He said that few things ever invented there would ever see the light of day but, in the end, quite a few things did, such as WIMP interfaces for computers.

When Dan left PARC, he sold the first version of *DPaint* to Electronic Arts, as one of the first ever programs on a new computer they were working with at the time... the Amiga! Dan later revised the program as *DPaint* II, and this spawned two later versions for the PC and one for the Atari ST. But Dan still wanted to go back to the program and add animation on the Amiga, which he did with *DPaint* III.

After *DPaint* III, Dan left programming for Amiga and now programs almost exclusively for the PC and UNIX workstations. But there was still work to do on *DPaint*, namely a HAM mode, and so the job fell to Lee Taran to bring *DPaint* into the 90s, and this has been done with *DPaint* IV. Animation and all Amiga modes including HAM. What program could be better than that?

*Safari* and *Sea Life* – lions, sharks and sting rays. Excellent animated clip art with a sharp bite to it

# IT'S THE REAL THINGS

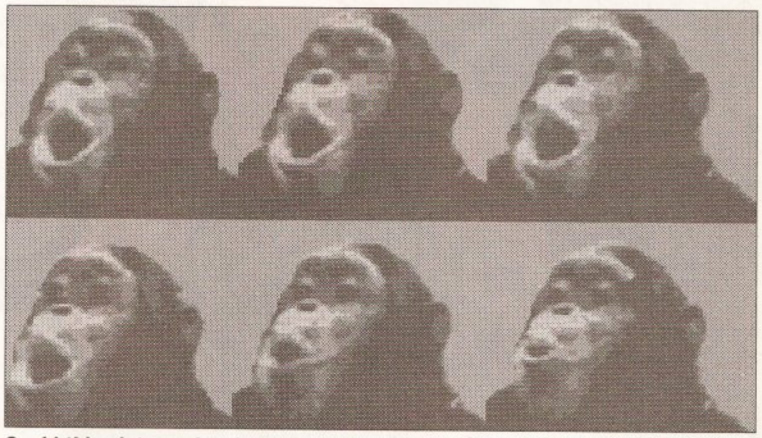
The release of *DPaint* IV coincides with a new batch of *Real Things* from RGB Studios, called *Safari* and *Sea Life*. In case you've not come across *Real Things* before, they are a series of excellent animated clip arts for use with *DPaint's* animation facility, enabling you to build up life-like animations of animals, birds, fish and people, although probably not all at once.

The beauty of this system is that you can make your own creations, both with the starting point and the excellent animation provided for you. Someone who can't draw as well as they would like, can easily create something of their own with the minimum fuss.

The new series is much more life-like than previous versions, which were line drawings filled with colour. These are much more like digitised images, which have been very carefully animated to loop perfectly. This means that a fish swimming will continue to swim across the screen as much as you like without any glitching or jumping.

*Safari* features animated animbrushes of zebras, elephants, leopards, tigers, monkeys, cheetahs, giraffes and a politcian... er. Actually it's just a little joke, as the brush in question shows a jabbering monkey.

The *Sea Life* disks are just as interesting, as they feature sharks, plankton (huh?), crabs, coral fish, turtles, sting rays, flat fish and all manner of undersea effects and backgrounds. The plankton and the waves animbrushes are designed to cycle and be positioned anywhere on the screen. Many of the fishes have the reflections of the water dappling the upper surfaces of their bodies, which in concert with the "underside of the waves" animbrush gives a very real impression of being under the sea.



Could this picture of a chattering chimp be put to more imaginative use? The potential usage of the *Real Things* characters is limitless

## CONCLUSION

The manual states that *Real Things* will feature HAM pictures in future, now that *DPaint* is in HAM. The concept behind *Real Things* opens up a whole wide world of animals and special effects. I look forward with interest to see what they'll come up with next. Stupendous fun!

## 3. MOUNTING PICTURES WITH DIFFERENT PALETTES

The beauty of HAM mode is that you can have a number of pictures with differing palettes on the same screen. But if you just load pictures in, the palette changes, even in HAM. The way to do it is to shrink the pictures to the right size to fit together on the page and, then, save them as brushes. Afterwards load them one by one as brushes into the new page, and remap them to fit the new HAM palette.

## 4. LOADING IBM STYLE AND 256 COLOUR PICTURES

The PC version of *DPaint* has at least one advantage over the Amiga version, and that is its incredible flicker free VGA display which has 256 colour modes. This makes for some of the most classy pictures to be found. To load a 256 colour picture from a PC program you either have to have a copy of Dos2Dos or CrossDOS, to enable you to read a PC disk on your Amiga.

Once you have access to the pictures, you have to set HAM mode and load the picture as normal. When the computer asks you if you want to change the palette to 256 colours say no (there isn't a 256 colour mode, is there?) and the picture will load. The computer will take a while to think about it, and then it'll present you with a HAM version of the 256 colour pic!

You can also load ordinary res PC pictures, and the neat thing is that even the ranges are intact, as with this cycle animated picture from the *DPaint* PC demo disk.

***Phil South can be e-mailed on CIX as snouty, Telecom Gold as 74:MIK2077, and The Direct Connection as uad1135@dircon.UUCP***

## WHAT'S THE COMPETITION?

### DPaint IV vs Spectracolor vs DigiPaint 3

**There are obviously going to be comparisons drawn between *DPaint* IV and other HAM programs, so let's not shirk our responsibility and make some. The major competitors are obviously going to be *DigiPaint* 3 (NewTek) and *Spectracolor* (Oxxi Aegis). All three programs are similar in price, but very different in approach and capability.**

***Spectracolor* used to be known as *Photon Paint* 2, when it was marketed by MicroIllusions in the US. It was, until *DPaint* came along, the only HAM program to use animation, and although it worked fine in a 1Mb machine, the animation wasn't really feasible. *DPaint* manages a little better than that, with all modes available even at 1Mb. But HAM is especially memory intensive, and although *DPaint* has more capabilities than *Spectracolor*, the memory soon fills up. HAM animation is best done at 3Mb or over.**

***DigiPaint* was the first real HAM program to make an impact, and although it's due for a revision soon, the program as it stands is quite old tech. It's great to use, especially if you are used to it, but for a beginner I would recommend *DPaint*. The other thing is of course that *DigiPaint* doesn't handle animation at all.**

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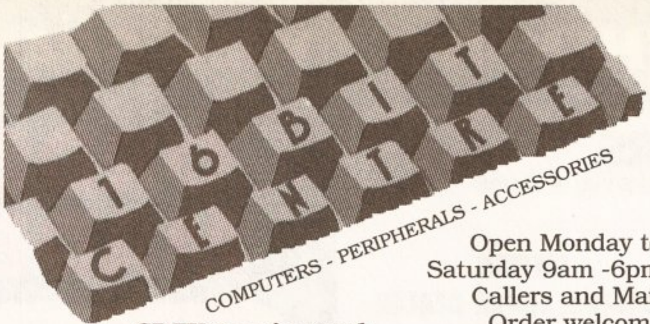
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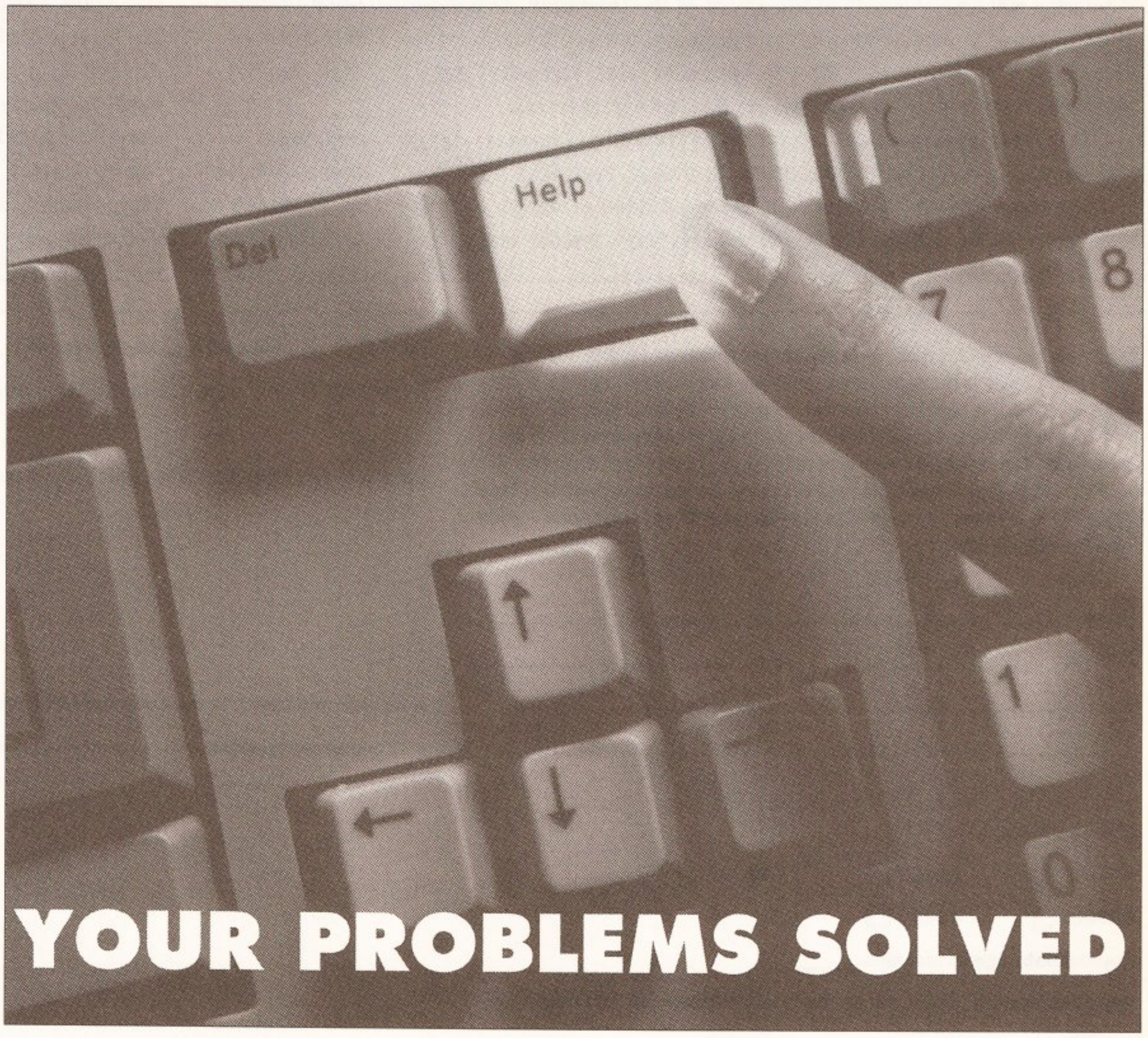
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## CONTENTS AT-A-GLANCE



OUR EXPERTS TACKLE YOUR REAL-LIFE PROBLEMS

# AMIGA ANSWERS




## SO WHAT DO ALL THOSE ICONS MEAN?


Beginners: this icon will appear next to any questions which are 'basic' in content.


General: this icon is used for any general Amiga-related queries.


Caution: be sure that you fully understand the answer before trying it out.


Danger: the answer to this question could well invalidate your warranty – or you!


Hardware: this icon is used to denote questions relating to general hardware.


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**We also cannot enter into personal correspondence – all enquiries will be dealt with in the pages of the magazine. This does mean a bit of a delay in solving your problem, but you'll just have to be a little patient and wait for it to appear in print. You won't get a personal reply even if you enclose an SAE with your letter.**

**Send your question on the form below to: Amiga Answers, *Amiga Shopper*, Beauford Court, 30 Monmouth Street, Bath BA1 2BW.**

**The Amiga Answers panel consists of all three of *Amiga Shopper*'s consultant editors – Jeff Walker, Mark Smiddy and Phil South – and, of course, our resident technical editor Cliff Ramshaw. We will also be calling on the services of all our other contributors, so you won't be able to catch us napping whatever the subject of your query.**

**Each panelist will be dealing with queries in their own specialist area(s) so it would help us greatly if, when writing, you label your query envelope with the name of the expert who can solve your particular problem. Below is a list of their areas of expertise. It's a list that we will add to and update every month, so you will know who to write to about any subjects not mentioned here.**

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| ***Gary Whiteley –*** | **Video** |
| ***Paul Overaa –*** | **Programming, music** |
| ***Mick Draycott –*** | **Hardware, programming, MIDI** |
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| ***Phil South –*** | **Graphics, AMOS** |
| ***Jason Holborn –*** | **Public domain** |
| ***Jolyon Ralph –*** | **Programming, hardware, CDTV** |
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If you send in a question for the Amiga Answers experts, please fill in and include the form below (or a photocopy if you don't want to cut up your magazine). And please also make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you. Send your form and question to: Amiga Answers, *Amiga Shopper*, 30 Monmouth Street, Bath BA1 2BW. Sorry, but we cannot personally reply to any questions – even if you include an SAE.

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**Workbench revision (written on the Workbench disk)**

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**PCB revision (if known). Do not take you machine apart just to look for this!** __________

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**Now, use this space to describe your problem, including as much relevant information as possible. Please continue on a separate sheet if necessary.**

**AS 10**

## GAME ISSUES



**I have recently created some unique courses and scenarios for US Gold's *Leaderboard* and SSI's *Kampfgruppe* and I would like to make them available to others through the PD libraries. Before I do this though, I'd like to ask you to answer a few questions.**

**Firstly, is it illegal to distribute such scenarios? I wasn't quite sure due to the fact that, technically, these files are still part of a commercial package. Secondly, if I do distribute them, do I have to include some sort of 'Read Me' file stating which game they are for and its relevant copyrights?**

**Stuart N Hardy**
**Sheffield**

I don't think you've got a lot to worry about but you'd better check with the publishers first. In fact, I'm sure they'd be pleased as it may encourage people to splash out for the game so that they can use your scenarios.

If you were to start distributing any part of the original package (including any demo scenarios), then you would have something to worry about. I'm sure that along as your scenarios are completely your own work and cannot be used without the original package, then the chances of getting a visit from the boys in blue is very remote.

You're not really duty-bound to include a readme file with your scenarios, but it's always a good idea. After all, if you don't explicitly state which game the scenarios are for, how are people to know? It's also a good idea to provide some instructions which will enable inexperienced users to take advantage of your scenarios too.

Finally, it's always worth crediting the software house that produced the game by acknowledging its copyrights. Not only will this appease the company, but it will also make life a lot easier for people who wish to purchase the game. ***JH***

## PC DILEMMA



**I write PC software on a 386 based AT clone sporting a 300Mb hard disk. I develop programs using *Quick C*, *Quick Basic* and *FoxPro 1.2*. My workload often requires me to create programs on my Amiga as ASCII files and transfer them to the PC using *MessyDOS*. This is fine to a point – but I cannot test and debug the programs and, to this end, I require a good PC Emulator.**

**I have read your reviews of the KCS and Vortex AT-Once emulators and, of the two, the KCS unit seems to be superior despite the slower processor. However, I am unclear on a few points regarding these emulators with both my current and planned hardware configurations. My Amiga system currently comprises an A500 with 512K trapdoor expansion, two external floppy drives and a 42Mb GVP hard disk with a further 4Mb of RAM. It would be unfair to expect 386 performance from the KCS board but I am willing to sacrifice speed in favour of compatibility.**

**1) Do you know if the software I have mentioned will function properly with the emulator?**
**2) I need to be able to access files in excess of 6Mb directly from the hard disk. Is this possible?**
**3) Can I use my existing 5Mb of RAM in both Amiga and PC mode?**
**4) I hope to buy an accelerator soon – do any of the existing accelerators cause problems with the KCS system? I only need the accelerator for the Amiga side.**
**5) If I have the motherboard updated to 1Mb of Chip RAM and the new ECS will this cause problems with the KCS system?**
**6) It may be necessary to call the office PC via modem from time to time – will this be possible using *Procomm* under the emulator?**

**J Pinner**
**Swindon**
**Wiltshire**

1) According to KCS all the software you mention will work without any problems, although it will be slower.
2) Files of any size are no problem provided you partition the hard disk correctly in PC mode. Last I heard, there were a few minor compatibility problems with GVP hard disks and the KCS board – so you should check this first. The Vortex AT-Once can access any hard disk because it runs under AmigaDOS.
3) The current version of the Powerboard's software can only access 1Mb RAM – as 704K DOS and 192K EMS. KCS are planning to update this to support extra EMS/XMS but it isn't clear when the update will be available. AT-Once can access all the RAM directly because it runs as a task.
4) Accelerators are a dodgy area at the best of times – but it's fair to say that the KCS board does work in an A3000, so the software is compatible. However, I don't know of any problems at the moment – perhaps our readers may be able to advise on the current situation. (AT-Once falls over here because it occupies the same slot as a processor accelerator.) Interestingly, a processor accelerator will speed the PC emulation noticeably too.
5) At 1Mb with a Fatter Agnus and the normal Denise you'll have no problems – that was the configuration used in the review machine. A 2Mb KCS board for the A500 Plus (since that's what you seem to be aiming for) is currently in production and should be around by the time you read this.
6) *Procomm* and *Procomm Plus* are both known to work with the KCS board. *Procomm* was one of the programs I tried when compiling the original review. ***MS***

## ANIMATION CREATION



**Until now I have made animation on film in the traditional way, though I am now making computer animation as an alternative and have created a trial animation which is 1Mb long and lasts 1 minute.**

**I intend to make an animation larger than 8Mb and store it on my 52Mb hard disk, with a view to off-loading to video. As I can't store more than 8Mb in the Amiga's memory how can I refresh to give continuous output?**

**Why does my Amiga 500 only recognise 8Mb of RAM? How much Chip RAM can I configure?**

**FC Wells**
**Leeds**

I don't know if this *will* actually work with 8Mb of memory (since I don't have that much on my machine) but I did an experiment with Gold Disk's *Showmaker* program (reviewed on page 73) and I managed to get over 3Mb of animations from my hard disk running back-to-back on less than 2Mb of free memory. If you split the animation into smaller sections and then play these back one after the other then you should be OK. Just bear in mind that you don't really have very much control over when the animations actually first appear on screen (and hence start being output to tape). Also, *Showmaker* can be a mite awkward to use – but at least it will do the job.

You could also use Digital Vision's *Scala* program in the same way. It handled animation files that *Showmaker* just ignored (such as old *Videoscape 3D* animations). Other programs such as *Amiga Vision*, *Deluxe Video III* or *Elan Performer* may also do the job, though I wasn't able to test them out.

Incidentally, you'll find that saving the animation in smaller chunks will not only enable easier continuous loading, but you'll also find it quicker (and easier) to load the smaller chunks into other software (such as *Deluxe Paint*) for editing or amendment.

The Amiga 500 actually recognises 9Mb of RAM, and that's because of the way it was designed.

Currently, up to 2Mb of Chip RAM can be configured. The new A500 Plus machines come with 1Mb of Chip RAM which can be expanded to 2Mb by the addition of more chips. Older machines which have the Fatter Agnus fitted can be upgraded with circuitry such as DKB's MegAChip 2000 (distributed in the UK by Aquarian PD ☎ 0703 685006), an add-on for both Amiga 500 and 2000 owners. ***GW***

## BUSINESS BUSINESS



**I wonder if you can give me some advice. Some 12 months ago, I purchased an Amiga A500 together with a Seikosha SP-1200AI printer. I would now like to upgrade the memory to 1Mb, fit an extra disk drive and make use of a good word processing package with mail merge to a database. Having heard so much about the different drives, expansions and software, I must admit that I am confused.**

**My requirements are simple: plug-in, turn on, create my own letterheads to save costs, write letters to clients etc. spell check, update data and do my accounts for the taxman.**

continued on page 46

## JARGON BUSTING • JARGON BUSTING

**ASCII** – American Standard Code for Information Interchange. It is the data storage method commonly used when we type text files and enables data to be exchanged between different computers.

**Chip RAM** – The area of the Amiga's memory directly accessible by the custom graphics and sound chips. Newer machines fitted with the fatter Agnus graphics chip can access 1Mb, allowing smoother animations and more screens to be displayed at once. The new A500 Plus comes with an Agnus chip capable of addressing 2Mb of Chip RAM.

**EMS** – Expanded Memory System, or LIM (Lotus Intel Microsoft) EMS – a system enabling an application to use more than the normal MS-DOS limitation of 640k of RAM.

**XMS** – Extended Memory System takes the PC's RAM limitation beyond the 1Mb imposed by EMS. It only works on PCs with a 286 or better processor.

continued from page 43

**I would also like to buy a memory upgrade and an additional drive that will run automatically when I switch-on. In addition I would like to purchase a better printer (with sheet feeder) to create my letterheads – but how can I create real quality printing?**

**Peter Mabbs**
**Colwyn Bay**
**Clwyd**

Actually, your demands are not as simple as you seem to suggest, although they are standard for most people who wish to run a business on their computer. The most important thing to straighten out is that when you purchase your extra disk drive and extra memory, then plug them into their respective slots at the back and underneath the machine, they will both be available to you without any further configuration and, of course, will run automatically. The choice that you have to make is, "how much memory will I need?" I suggest at least 2Mb.

You seem to know that your software requirements are a word processor and database, although I suggest that you look at an accounts package and a desktop publishing package too. A good word processor will give adequate results for your letter headings, but you may find the desktop publisher will enable you to be more versatile with more different size fonts and the possibility of producing your own logos.

The bottom line, however, is down to the quality of your printer. A 9-pin printer will give poor results because the matrix of 9 pins on the printhead is insufficient for your purpose. A 24-pin printer will improve the legibility but my suggestion is that you consider at least an Ink Jet printer or possibly one of the cheaper laser printers on the market at the moment. ***MD***

## ADVENTUROUS CODER

**I am trying to write a graphic and text adventure game in AMOS. I have written the story line down on paper, and decided what each location will have in it. I've even drawn a map!**

**That bit was easy, but now I don't know how to even start programming it. I've looked at *Castle AMOS* on the Extras disk, but I don't want anything as complicated as that. I just want to be able to type 'north', 'south' and so on, all by using the keyboard. How would I pick up something in one location and make sure it isn't there when I go back?**

**Please help, because I feel that I have a great storyline which might be wasted by my not being able to program it.**

**Paul Shaw**
**Dukinfield**
**Cheshire**

As you're probably aware, writing even the simplest of adventure games is a fairly complex task. I can't do more than give you a basic outline in these pages.

As with most programs, the most important aspect of your adventure will be the data structures you choose. In this case, you need to store the rooms and the objects. Since there will be several of each, it's best to hold the information as arrays. You can than access any particular room or object simply by reference to its number.

For each room, there will be a text description. These could be held in a string array called, for instance, ROOM$. The individual data for each room can be entered by using AMOS's Read and Data statements.

You also need to convert your map into data. The easiest way to do this is to have four variables corresponding to each of the compass directions (or eight if you want to include north-east and so on). Again, these will be arrays, but this time arrays of numbers. You could call these arrays N, S, E and W. For each room, the corresponding numeric arrays would hold the number of the room which the player would move to if that direction was chosen. If it's not possible to move in that direction for a particular room, then set the number to -1.

Similarly, each object must have a text description, so a string array called OBJECT$ seems like a good idea. You only need one numeric array for each object, and this holds the number of the room which it is in. Use an array called OBPOS. If an object has been taken by the player, then you could set its value to -1. If it has been destroyed or otherwise removed from the game, set it to -2.

Once the data has been set up, you can think about the structure of the program. At its simplest, you will need a variable which gives the player's location in terms of a room number. Then, you must print out the description of that room, simply by referencing the relevant element of the ROOM$ array. You then need to print out the objects in the room. You can do this by searching through the OBPOS array, looking for values which equal the player's room number and printing the corresponding OBJECT$ element.

Then you must take the player's input, in the form of a string, and carry out the necessary actions. After this the whole loop repeats.

If all you required was simple 1-word inputs, then this part of the program would be very simple, consisting of not much more than a series of If statements. However, even the act of taking or dropping an object requires 2-word input. The string therefore has to be split into its verb and noun parts before the player's actions can be carried out. This is done by searching for a space in the middle of the input string.

Here is a very simple example:

```
' set up data structures
OBJNO=2
ROOMNO=4
Dim OBJECT$(OBJNO)
Dim OBPOS(OBJNO)
Dim ROOM$(ROOMNO)
Dim N(ROOMNO),S(ROOMNO),E↵
(ROOMNO),W(ROOMNO)
For I=1 To OBJNO
Read OBJECT$(I),OBPOS(I)
Next I
For I=1 To ROOMNO
Read ↵
ROOM$(I),N(I),S(I),E(I),W(I)
Next I
' player's initial position
LOCATION=1
' main loop
Do
Print "You are in a ";
Print ROOM$(LOCATION)
Print "You can see:"
Y=0
For I=1 To OBJNO
If OBPOS(I)=LOCATION Then ↵
Print OBJECT$(I) : Y=1
Next I
If Y=0 Then Print "nothing"
Print
Input "What now ?";MOVE$
' split input into verb↵
and noun
L=Len(MOVE$)
S=Instr(MOVE$," ")-1
If S=-1 Then S=L
VERB$=Left$(MOVE$,S)
NOUN$=""
If S<L Then ↵
NOUN$=Right$(MOVE$,L-S-1)
' now carry out player action
If VERB$="north" Then Proc ↵
NORTH : Goto FIN
If VERB$="south" Then Proc ↵
SOUTH : Goto FIN
If VERB$="east" Then Proc ↵
EAST : Goto FIN
If VERB$="west" Then Proc ↵
WEST : Goto FIN
If VERB$="inventory" Then ↵
Proc INVENTORY : Goto FIN
If VERB$="take" Then Proc ↵
TAKE : Goto FIN
If VERB$="drop" Then Proc ↵
DROP : Goto FIN
Print "I don't understand"
FIN:
Loop
' data for objects
Data "sword",2,"shield",4
' data for rooms
Data "a small cafe in ↵
Camberwell",2,-1,-1,-1
Data "Camberwell Green, ↵
where drunks drink and ↵
children play with razor ↵
blades",-1,1,3,-1
Data "the good old George ↵
Canning",-1,4,-1,2
Data "the dark dungeons of ↵
death",3,-1,-1,-1
Procedure NORTH
Shared LOCATION,N()
If N(LOCATION)<>-1
   LOCATION=N(LOCATION)
Else
   Print "You can't move ↵
that way"
End If
End Proc
Procedure SOUTH
Shared LOCATION,S()
If S(LOCATION)<>-1
   LOCATION=S(LOCATION)
Else
   Print "You can't move ↵
that way"
End If
End Proc
Procedure EAST
Shared LOCATION,E()
If E(LOCATION)<>-1
   LOCATION=E(LOCATION)
Else
   Print "You can't move ↵
that way"
End If
End Proc
Procedure WEST
Shared LOCATION,W()
If W(LOCATION)<>-1
   LOCATION=W(LOCATION)
Else
   Print "You can't move ↵
that way"
End If
End Proc
Procedure INVENTORY
Shared ↵
OBJNO,OBPOS(),OBJECT$()
Print "You are carrying the ↵
following:"
Y=0
For I=1 To OBJNO
If OBPOS(I)=-1 Then Print ↵
OBJECT$(I) : Y=1
Next I
If Y=0 Then Print "nothing"
End Proc
Procedure TAKE
Shared ↵
OBJNO,LOCATION,NOUN$, ↵
OBJECT$(),OBPOS()
Y=0
' Y is set to one if an ↵
object is taken
```

**Because of the width of the columns, we occasionally have to break listings across two or more lines. Where this has occurred, and you should enter two or more lines without a [Return] between them, we have used the following symbol: ↵**

```
For I=1 To OBJNO
If OBJECT$(I)=NOUN$ and ↵
OBPOS(I)=LOCATION Then ↵
OBPOS(I)=-1 : Y=1
Next I
If Y=0 Then Print "The ↵
";NOUN$;" isn't here"
End Proc
Procedure DROP
Shared ↵
OBJNO,LOCATION,NOUN$, ↵
OBJECT$(),OBPOS()
Y=0
' y is set to one if ↵
object dropped
For I=1 To OBJNO
If OBJECT$(I)=NOUN$ and ↵
OBPOS(I)=-1 Then ↵
OBPOS(I)=LOCATION : Y=1
Next I
If Y=0 Then Print "You ↵
aren't carrying the ";NOUN$
End Proc
```

As I said, adventure games are complex pieces of code, even for the simplest of game mechanics. I hope there's enough information here to get you started. ***CR***

## CURRENT BUN



**I have had my A500 for over three years now and have enhanced it with a memory upgrade, second disk drive and colour printer. I am considering buying a hard drive, and possibly the A690 when it becomes available.**

**I do not wish to change my computer, but am concerned that the power supply may not be able to handle the extra current required by extra peripherals. The current PSU is the original supplied when I bought the machine. How many peripherals can the standard PSU handle and, if I do buy a hard drive, should I buy a more powerful PSU?**

**Paul Hardy**
**Sheffield**

How long is a piece of string? The A500 is designed for one extra disk drive and 1Mb of internal memory – that's it. The new A500 Plus is designed for 2Mb RAM and one extra drive. A small amount of power is available on the parallel and serial ports and the 86-pin expansion slot. This is barely enough to drive 2Mb of RAM, a small sound sampler and perhaps a MIDI interface. The problem lies not with the PSU, but the motherboard. The tracks making up the PCB are only designed to supply a limited amount of current – draw too much (by adding a big, beefy PSU and lots of power-hungry peripherals) and the board fries.

It's not all doom and gloom though – most bigger peripherals come with their own PSUs anyway so there should be no problem. However, you should be very careful on the hard drive front. First, some hard drives (like the Protar) don't have their own PSUs as standard. Second, not all designs support a throughport and this may affect peripherals like the A690 – unless Commodore supply a through connector with the machine. ***MS***

## IT'S A BUM WRAP



**I should be obliged if you would assist me with a problem I have encountered since the purchase of a Panasonic KX-P1081 impact dot matrix printer.**

**Despite having spent hours on attempting to set up this printer to print in any form other than as shown in this letter, I have not met with any success despite having tried every Epson combination, plus Custom and Generic.**

**I have been able to achieve any combination of styles, using the EpsonX[CBM_ MPS-1250] driver, but the lines of text only print half way across an A4 sheet before wrapping to the next line.**

**Having taken early retirement I am one of your older readers, and unfortunately the computer age has almost passed me by. It may be evident, therefore, that the solution to this problem is simple but I cannot resolve it by myself.**

**Barry Verona**
**Gants Hill**
**Essex**

As you say, your problem is difficult to describe in words, but I must have a go in case anyone else is having a similar problem.

Barry sent me two printouts of his letter. One is in draft, and this letter appears perfectly normal. The other is in bold italics, except for his address at the top of the letter which is in draft and is tabbed to the right hand side of the page, starting at about column 64 (as it is in the draft copy too). This bold-italics letter has only printed on the left-hand side of the A4 sheet, and a blank line has appeared between the lines of his address, which has not tabbed to column 64 as it has in the draft.

Further investigation shows that the letter is in Pica pitch (10 characters per inch), the draft one is 72 characters wide and the bold italics one is 36 characters wide.

Now, Barry, you have neglected to tell me which word processor you are using, but I don't think this matters because I cannot believe that any word processor could cause this effect simply by changing styles. No, it *has* to be the printer driver. (Said Jeff in a definite, authoritative kind of voice, knowing full well that when you say is *has* to be something, it very rarely is.)

The KX-P1081 is Epson RX compatible – in other words, it works like any of the Epson RX printers, or in more other words, it 'emulates' an Epson RX printer. According to Commodore, the EpsonX[CBM_MPS-1250] driver will work with any printer that emulates an Epson RX.

So why doesn't it work when you change styles?

It looks to me like something is imposing a 36-character right-hand margin, thus causing the lines to wrap at column 36. This suggests that the word processor is sending a code to the printer which says "change to bold italics", and the printer is reading it as "change the right margin to be 36 characters wide". However this is a stupid suggestion because the standard ANSI codes the Amiga sends for switching on bold and italics are so different from the set right-hand margin code that nothing except a badly-written printer driver would interpret them that incorrectly.

Furthermore, your 'mucked-up' letter doesn't change to bold italics until after the address at the top, yet the address is also wrapped at column 36. So it can't be that.

At the end of the day I am convinced that it must be something you are doing within your word processor before printing the letter in bold italics. And as you haven't told me which word processor you are using, I suggest you give it another go, making sure before printing that the page or line width setting of the word processor is set to A4, or at least 72 characters.

Panasonic's technical help phone number is ☎ 0344 853508, although like many other technical help lines it appears to be permanently engaged.

The lesson to be learnt here, by the way, is to include *all* relevant details when sending us a question – too many details is infinitely better than too few. ***JW***

## JARGON BUSTING • JARGON BUSTING

**Arrays** – A grouping of variables, all called by the same name. The individual elements of the array are distinguished by a trailing integer number.

**Printer Driver** – a program that sits inbetween any applications program producing output and the printer. It converts any codes describing text and graphics format into a form suitable for a specific printer.

**PSU** – Power Supply Unit.

**String** – A variable which holds alphanumeric data, as opposed to numbers. Each item is a character, and all of these are 'strung' together to form one variable – hence the name.

## PRINTS CHARMING

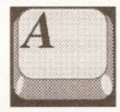


**I cannot find a printer driver for my Panasonic KXP1124i. I have tried various PD libraries, but none of them were able to help me. Can you tell me where I can get one?**

**Simon McDonald**
**South Glamorgan**

I haven't heard of a printer driver written specifically for the KXP1124i, but the EpsonQ driver included on your Workbench disk will do the job just as well – it certainly seems to work fine with my KXP1123! ***JH***

## STAR CATALOGUES



**I want to use a database to hold press cuttings on my various hobbies – astronomy etc – therefore the database has to be capable of holding large text fields, probably a screen or so at maximum. I also want to be able to set up a field to contain key words through which I can search to find entries for specific subjects. I realise that I may need a hard disk to record this amount of data. Any suggestions?**

**T Finn**
**HaverfordWest**
**Dyfed**

In short, any database will do. You may not realise it yet, but your requirements are similar to most peoples' – the answer is in the way you set-up the database and how you use that information.

The first thing to do is to create a short text field into which you enter a key word or maybe a code number, then add extra fields (one screen width) for each line of data you wish to enter – calling the fields Line1, Line2, Line3 etc. (A field is one answer to one prompt on the database; a record is the sum of all

## PRINTER CARTRIDGES

**Back in issue 6, Bill Bennet wrote to say he was having trouble finding printhead cartridges for his Commodore MPS 1270 printer. We received a letter from Kodak informing us that the cartridges are in fact available. Details from Kodak's distributors: XMA ☎ 0602 818222, Softsel ☎ 081 568 8866 and Ingram Micro ☎ 0908 260160.**

fields for one entry)

The problem with your method is that firstly, one field can only be 256 characters in length and secondly, it would take too long to search large amounts of data for a key word.

Finally take a print-out of your sorted database, with your short code field and maybe one other, say Line1. This will give you an instant reference guide to the information held within the database and you can search lines 2, 3 etc, if you need to be more specific. ***MD***

## MONITORING CHANGES

**I don't yet have an Amiga – I still have a C64 and monitor – but I'm going to sell the C64 and buy an Amiga. My problem is whether or not my current monitor (CBM 1701) will work with the Amiga. I'm not sure, so if you can enlighten me it would be very much appreciated.**

**By the way, the CBM 1701 (for the C64) has 2 jacks on the front (for audio and video) and three on the back (audio, chroma and luma). There is also a switch to select between front or back sockets.**

**M Le-Vallois**
**Paisley**
**Scotland**

It's a shame there is no equivalent of the US *Power Up* program in the UK which would save money for people like you who already have Commodore equipment but now wish to upgrade. But there isn't.

However, I see no reason why you can't use your existing monitor by using a modulator with the A500 and plugging the video and audio outputs into the jack sockets at the front of your monitor. You will lose out on the much better RGB quality the Amiga has to offer though, so as soon as you can you should try to get hold of a SCART (Euroconnector) equipped TV or monitor (such as the CBM 1084S or Phillips 8833) which will give far crisper results than any normal video output. ***GW***

## KEY DETECTION

**In issue 6, Paul Overaa described a method of reading the Amiga's keyboard in assembly language via AmigaDOS. Jordan McClements has earned himself a fiver by writing with a method of doing the same thing but by-passing the operating system. He says: Reading keyboard data while the operating system is disabled is simple, and can be performed every vertical blanking gap, without interrupts and so forth. Here's a segment of code to demonstrate it:**

```
Check_Keys
 move.b      $bfec01,d0   ; ↵
Put raw key  code in D0
 ror.b       #1,d0        ; ↵
Decode
 not         d0
 cmp.b       #$4e,d0      ; ↵
Check for right cursor key
 beq         Right
 cmp.b       #$4f,d0      ; ↵
Check for left cursor key
 beq         Left
 cmp.b       #$4c,d0      ; ↵
Check for up cursor key
 cmp.b       #$4d,d0      ; ↵
Check for down cursor key
 beq         Down
```

**Note that the codes are not ASCII but raw key codes (taken before conversion to ASCII). These codes are documented in the *Amiga Systems Programmers Guide*, published by Abacus ☎ 0101 616 698 0330.**

## VIVA PD!

**I am writing to you in the hope that you can help me. I would like to set up a PD software library from my home in Italy and I would be very grateful if you could offer me some advice.**

**The Amiga is very popular in Italy but there are virtually no PD libraries which can offer users the range of PD software that English users enjoy. Myself and a few friends hope to rectify this by setting up a PD library, but we're not quite sure how we can go about sourcing the disks. We're quite prepared to spend a lot of cash setting the thing up, but we're not quite sure where to start.**

**Graham Chant**
**Verona**
**Italy**

There's no cheap way of setting up a PD library. Most libraries start by purchasing disks from other libraries. More often that not, they have to pay full price for these disks, but I'm sure if you had a chat with a friendly PD library in this country and explained to them that your library will be based in Italy (therefore posing no threat to its own business), they'd let you have a discount for a bulk order.

When you first start a PD library, it's always a good idea to go for PD ranges that are already established, such as the Fred Fish and TBAG collections. Demos are always popular but you'd be missing out on a big opportunity if you limited yourself to these alone.

It's a good idea to organise your library catalogue efficiently so that potential buyers can find the disks they are interested in, without having to sift through pages and pages of disks of little use to them. ***JH***

## RUBENESQUE AGNUS

**I bought my Amiga in September, so it should have the Fatter Agnus Chip. But according to the circuit diagrams in the manual, it is fitted with the Fat Agnus (serial no 8370). Have I been sold an old machine? The salesman assured me that it was the latest model.**

**Les Johnstone**
**Glasgow**

No, in all probability you haven't been sold an old machine. Contrary to what we said in issue five (whoops!), looking in the A500s manual will not tell you which Agnus Chip is in your Amiga. Although Commodore started shipping machines with the Fatter Agnus Chip some time ago, the company failed to update the manual. ***CR***

## BLACK BORDERS

**I have recently purchased a Star LC-200C printer. My son uses *DPaint 2* and cannot get rid of the black border along the top and left edges of the screen. We have tried different settings but cannot lengthen the print or discard the border. We are obviously doing something wrong and as new-comers to the machine we are in the experimental stages. As the program is useful for his college work in graphic design we thought you may be able to help us.**

**Mrs P Johnson**
**Weymouth**

This is an aggravating problem with *DPaint* – but it's easy to fix. All you have to do is select a background colour of white and click the clear screen (CLR) tool. Also, you can edit the picture in those areas by pressing F10 which toggles the toolbox on and off. ***MS***

## SCOPE OF THE MICRO

**I am using my Amiga to process images obtained using a scanning tunnelling microscope. For this purpose I have written an application using *SAS C 5.1* and am now able to view images as 2D greyscales and save them as IFF files for incorporation into AmigaT$_E$X. The data for the images consists of a set of points (x,y,z) which define a surface. Currently each pixel is coloured depending on height (black low to white high). This is OK as far as it goes, but I would now like to create 3D representations of the data and have given some thought as to how best to achieve this. I appear to have two options: Write the 3D ray tracing software myself, or use one of the commercial programs such as *Imagine* or *Real3D*.**

**My question is: Do either of the above programs have a public file format so that I can write code to export my data in a suitable format?**

**MJ Hadley**
**York**

I can tell you that the file format of *Real3D* has been made available because I've seen parts of it. *Real 3D* saves its objects by making a binary dump of its data structures (the structures form a hierarchical binary tree) and a lot of this structure information has been made public.

I think, in the circumstances that the best advice I can give you is to contact Alternative Image (6 Lothair Road, Aylestone, Leicester LE2 7QB ☎ 0533 440041). The people there are a decent bunch and, more importantly, they have a lot of experience in this particular area. They'll not only be able to give you up-to-date technical information about potentially suitable products but will be able to help you obtain the necessary file formats. ***PAO***

## THE DREADED LURGY

**I have a fairly good reason to believe that my Amiga has been infected with a number of virii including the Saddam virus, the Lamer Exterminator, the Australian Parasite virus and the Byte Bandit virus. I've been suffering from corrupted disks for a while now and I'm really starting to get desperate. I would be grateful if you could offer me some advise on how I should go about removing these viruses as I'm even starting to loose sleep with worry.**

**Christopher Riley**
**Oxford**

Don't worry Chris, ridding your system of the dreaded lurgy is a fairly simple process. As you probably already know, there are basically two types of virus that are commonly available on the Amiga – the bootblock virus and the parasite virus. Bootblock virii are by far the simplest strain to remove and can be killed off with just about any good virus killer (*VirusX 5.0*, for example). Programs like *VirusX* will kill the Lamer Exterminator (1 and 2), ByteBandit and a whole host of other bootblock virii that you may not have yet found on your system.

Parasite virii are rather more difficult to trace and therefore cannot be killed with a conventional bootblock virus killer like *VirusX*.

continued on page 52

FIRST CHOICE
1
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These virii attach themselves to files on your boot disk and must be killed by a virus killer that which has been specifically written to handle them. There are almost as many virus killers available as there are virii, but the one I would recommend is the *Master Virus Killer* which is available from Blitterchips PD for just £1.25. *MVK* can handle both Parasite and Bootblock virii, making it an ideal choice for anyone suffering from virus infection. Give Blitterchips a call on ☎ 0535 667469 and ask for disk 993.

Be very careful when using virus killers – if you don't know what you're doing, you can do more harm than good! Some programs (usually games and demos) use their own custom bootblocks which are required to run them. As a general rule, if a game seems to work then don't touch it! ***JH***

## AMSTRAD QUERY

**I have an Amstrad PCW8256 with a 3 1/2 inch disk drive (720k). I would like to transfer ASCII text files from the Amstrad to my Amiga and vice versa. I know I can do this using MS-DOS format disks, but I'd like my Amiga to read the PCW-format disks directly. Is this possible?**

**John Filsak**
**Nottingham**

As far as I'm aware, it isn't possible to read PCW-format diskettes directly on an Amiga. You're best bet is to obtain a copy of the PD utility *MessyDOS* and use the MS-DOS format diskette facility available on your PCW. ***JH***

## PERSISTENCE OF VISION

**We have an Amiga A500 with 512k upgrade. My 7 year old daughter is a prolific creator on *Deluxe Paint 2* and is keen to progress to animation (she saw it on Rolf Harris' Cartoon Time!). I may well obtain *Deluxe Paint 4* at a later date, but will I need extra memory to make it work well? I read somewhere (was it an advert?) that the type which plugs into the trapdoor is only really suitable for 512k and anything more may cause problems – is this true or should I go for an external upgrade? Would I be able to use my existing 512k as well?**

**Frances Bradley**
**Kirkoswald**
**Cumbria**

If you want *Deluxe Paint 4* to work well (*well* being the operative word), then you will need more memory. It is not true that more than 512k plugged into the trapdoor causes problems with reputable upgrades, although you will have to scrap your existing 512k if you decide to increase memory internally. External upgrades should not affect existing 512k expansion and will increase the memory to above 1Mb. ***MD***

## NO PAL OF MINE

**I have a slight problem with an item of yours in issue 6, the October issue of *Amiga Shopper*, regarding the revised startup-sequence for the 1Mb machine. When I run Basic I find I have only about 18 lines down in the listing and 32 spaces across compared to 20 and 40 respectively. This is affecting the layout of my titles and it is also affecting some of my commercial software, for example Digita International's Home Accounts.**

**Any help would be useful.**

**RW Mills**
**Wadebridge**
**Cornwall**

The problem is not in the startup-sequence, but in your preference settings. Had you taken a copy of your Workbench disk and modified that, the problem would not have appeared. I'm guessing that you've made up your own Workbench disk, and have forgotten to include a file called 'system-configuration', which normally lives in the devs directory.

Normally, system-configuration stores all of the settings chosen from the preferences screen. This includes the choice of an 80 or 60 column screen. If the file is not present, then on boot-up the Amiga defaults to a 60 column screen, which is easier to read on a TV. This accounts for the narrowing of your display, although quite which version of Basic you are using I don't know, since AmigaBasic uses a display of 80 columns, not 40. The solution is to go into preferences, select an 80 column screen and [save]. If you don't have preferences on your customised Workbench, copy the system-configuration file over from the original and place it in the devs directory of your own disk.

The height problem is a little different. This is caused by a bug in AmigaDOS which occasionally causes the machine to boot up in NTSC mode instead of PAL. The NTSC picture standard has less lines than PAL, and so the display height is reduced. ***CR***

## ABLE LABEL

**I'm not sure if you can help but I would be extremely grateful if you could. A few months ago your sister magazine *Amiga Format* had a label printing utility on the coverdisk called *Illinois*. I use this program a great deal but I have to keep digging it out of a drawer to load it every time I wish to use it because I cannot seem to be able to install it on my GVP Series-II hard drive. Please help!**

**LJ Blindell**
**St.Albans**
**Herts**

You haven't been reading the documentation that comes with Illinois, have you! Contrary to what it says in the Disk Pages of *Amiga Format*, *Illinois* actually needs a couple of extra files to be copied across if it is to work on a hard drive. You'll find these in a directory called Config which is on the original Interphase cover disk. Just copy this directory in its entirety complete with the *Illinois* program and the files directory to your hard disk and *Illinois* will work fine. ***JH***

## HARD LINES

**While using my A590 hard drive I have discovered some strange file symptoms. In each directory of the hard drive, a file named WB appeared to copy itself. I assumed for some time that this was some file type used by Workbench in all directories. After using the list command I noticed that it was actually an IFF sound sample. This was one of my own sound samples I saved to the hard drive when it was quite new. I did call it WB and originally saved it to the C directory. I have deleted this file from all directories and regained about 2-3% of the A590's space.**

**I have always used a virus killer on the Amiga – no type of link virus has been reported on the hard drive. Is this just one of the A590's many strange symptoms?**

**Murtaza Chaudhary**
**Reading**
**Berks**

Workbench does not need a file named WB in each directory of a disk to operate, neither does the CLI. Frankly I haven't come across this before, although I have heard of similar problems of multiple copies of programs appearing all over the disk. This means almost certainly that there is a fault with the disk and it should be repaired. You do not say if the problem has occurred since you deleted the offending files. If all is well, then I would put this down to a bit of tinkering when the drive was new. If it occurs again I would get it checked – the last part of your letter worries me: you should not have 'many strange symptoms' with your A590 hard drive! ***MD***

## WRITE OFF

**When I boot up the Workbench, a request appears saying, "Workbench 1.3 has a read/write error".**

**I've had this problem since I first bought the computer. Can you help me?**

**Stephen Griffiths**
**Dyfed**
**Wales**

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## JARGON BUSTING • JARGON BUSTING

**IFF –** Interchange File Format is a means by which data from different graphics or sound sampling programs is saved in a compatible way. It allows data to be exchanged between programs very easily and avoids the situation on, say, the PC where dozens of different graphics packages each save data in incompatible formats.

**MS-DOS –** Microsoft Disk Operating System. It's a bit like AmigaDOS, only many commands are internal. Shell editing is crude prior to Release 4.

**NTSC –** National Television Standards Committee is the name for the TV colour coding system used in the USA and other countries. It has 525 lines, running at 60 fields and 30 frames/second.

**PAL –** The other main TV colour coding system (with the exception of France's SECAM system), which is in use around the world and was developed in Britain. PAL refers to Phase Alteration Line. In fact, there are several hybrid PAL systems in use, all of which are slightly different.

**Startup-sequence –** A program which is executed every time the Amiga is switched on and after every reset. It sets up the system so that it is usable from Workbench, and may be customised by those who have unusual hard or software requirements.

**Virus –** A small program that can lie hidden in memory or on a disk, duplicating itself on to any disks inserted in the machine, and generally causing havoc. There are many virus killers available in the public domain designed to deal with this menace.

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Your Workbench disk is damaged. You should always make a copy of important disks such as this and use the copy rather than the original.

If you have made a copy, then go back and make a fresh copy of your original disk and all will be well. If you haven't, and it's your master disk that is damaged, then you need a new one. If this is the case, send your disk, along with an SAE and covering letter, to:

Technical Support
Commodore Business Machines
Commodore House
Bradbourne Drive
Pilbrook
Milton Keynes
MK7 8AT

And your disk will be replaced free of charge. ***CR***

## RESURRECTING PRINTERS

**In response to Stu's letter requesting information on using his C64 printer with his Amiga, Mr R Smith of Milton Keynes has written to say that he knows a company which can help. York Electronic Research (☎ 0904 610722) sell two versions of Ami-64-Link, one for £35.25 and one for £23.50. Both connect via the Amiga's parallel port; but the budget version locks out the Amiga while printing. Thanks for the tip: a fiver's on its way.**

## HARD TIMES

**I have had my Amiga 500 for three years, using it mainly for word processing. I added an external drive after six months, and was content with the performance of *KindWords 2*, *Pen Pal 1.3* and *Protext 4.13* on floppy.**

**In August last year I bought an A590 hard drive with 2Mb of RAM and Kickstart 1.3. I was pleased with the increased speed but increasingly frustrated when (1) I instantly lost the Spell Check option in *Protext* because it said it could not find a file called ARNORENG.DCT; (2) I lost all printing facilities in *Pen Pal*; and (3) all my *KindWords* fonts disappeared except Draft. All this, despite following the directions in the manuals or using a program's install utility, and despite making sure the printer driver was installed.**

**I thought that I knew my way around the 500, but admit to ignorance of the use of hard drives. Help!**

**Ian G Betts**
**Bexhill-on-Sea**
**East Sussex**

You can always tell a real class product when it comes with a fail-safe hard disk installation program rather than scanty instructions in the back of the manual.

Let's deal with your problems one at a time, starting with *Protext*.

Run the *Protext* Config program, select the main configuration menu (press M), then the file and disk options (press F). You'll see an entry that says Search Path. This tells *Protext* where to look for any files it requires, like the ARNORENG.DCT dictionary. Set it to 'DH0:Protext' or wherever *Protext* is on your hard drive – 'DH0:WordProcessors/Protext' is another example. Don't forget to Save before exiting Config; accept the default filename it suggests (PROTEXT.CFG), but make sure it is being saved inside the *Protext* directory on the hard drive.

The version of *Protext* you are using (4.13) is almost the very first version which appeared on the Amiga. Arnor has learned many lessons in the intervening years and I would strongly recommend that you upgrade to version 5.5; it'll cost you £60.

Your *Pen Pal* problem has me stumped, I'm afraid. I've tried the 'HDInstall' program which comes with version 1.3 again and again, and it works perfectly every time, copying all the required files to whatever path I specify. I load in a document, and it prints without problems.

Are you absolutely positive that you have used the Workbench Preferences program to tell the Amiga which printer driver it should be using? The only reason I can think why you are getting no output is if the printer driver and the printer are incompatible. Copy whatever driver you were using before you got the hard drive from your old boot disk into the 'DEVS:printers' directory on the hard disk, then use Preferences to select it and save the settings.

The *KindWords* fonts problem is down to sloppy documentation. There are two 'Fonts' drawers with *KindWords 2*, one is on the Program disk, the other is on the SuperFonts disk. The fonts inside the 'Fonts' drawer on the Program disk needs to go into your FONTS: directory on the hard disk. To do this, insert the Program disk in the internal drive, open a Shell and enter...

```
COPY DF0:FONTS FONTS: ALL
```

The 'Fonts' drawer on the SuperFonts disk needs to be copied (or dragged) into the *KindWords* drawer on your hard disk.

Disregard the confusing information for hard drive users on page 2 of the *KindWords* manual about placing the *KindWords* 'fonts' drawer "next to your existing fonts drawer". This is gobbledegook. ***JW***

## TOAST AND RAM

**I have an NTSC Amiga 2000 (Rev 6 with 0.5Mb Chip RAM, 2Mb extra RAM and 50Mb hard disk) which I wish to upgrade to use for video work. I want to be able to record special events with my Hi-8 camcorder and then digitise in real-time, edit/add special effects including sound, add 24-bit graphics/ animations with my Amiga 2000 and then record the results to my VHS VCR. After thoroughly studying your Video Toaster article in Issue 6 I still have some questions which will help me choose the best set-up for my requirements:**

**1) How does the Toaster's genlock function compare to a stand-alone like the SuperGen 2000S?**
**2) Can the Toaster's output be recorded directly to a normal VHS VCR, without single frame editing, for good results?**
**3) Can any program, such as *DPaint 3*, *Imagine* and so on directly use the Toaster's genlock without needing to convert to a format the Toaster can use?**
**4) Can any 24-bit graphics program display its graphics through the Toaster's hardware using a multisync monitor or is it necessary to convert/import the graphics into a format the Toaster can recognise?**
**5) Does the Toaster produce graphics in all Amiga resolutions, as well as 24-bit?**
**6) Does the Toaster's software synchronise audio with graphics and make animations for video tape or does it only deal with still graphics?**
**7) Is a flicker fixer needed to eliminate interlaced video flicker when using the Toaster, Impact Vision 24 or DCTV? If so, which is the best one to get if the video slot is already in use and the MegAchip 2000 is used, as I've heard that the ICD Flicker Free will not fit with the MegAchip installed?**
**8) I realise that I'll need lots of Fast RAM but will the Video Toaster, IV 24 and DCTV work with only 0.5Mb of Chip RAM?**
**9) What is involved in upgrading my Chip RAM from 512k to 1 or 2Mb? Can I just buy a Fatter Agnus chip and swap it or is there more to it? Will I still be able to run all of my current programs?**
**10) Are there any problems fitting an accelerator card with the MegAChip 2000 installed?**
**11) I've considered buying a multisync monitor from the following: CBM 1950, NEC 3D-S, SEIKO CM-1440 or Sony 1304. Which is the best value/quality for money and compatible with most Amiga video hardware set-ups?**
**12) When running under an accelerator's microprocessor, are all the running programs only using the accelerator's 32-bit RAM and is the 16-bit RAM thus ignored until you go back to 68000 mode? Is the GVP Series II 'All-in-one' factory installed 4Mb 32-bit RAM enough for working with 24-bit graphics programs, including the Video Toaster?**
**13) How do the Toaster's functions/quality compare with the Impact Vision 24? What extra hard/software will I need to record the IV24's component video?**

**Mark Goodrich**
**Torrejon De Ardoz**
**Spain**

1) The Toaster's genlock is just that – a genlock for Colour 0. It works fine, though I can't compare the output with a Supergen as I haven't actually used one, though from what I've read it's pretty good. Bear in mind that the Toaster would normally use Luma Keying for superimposing rather than genlocking – which is

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## JARGON BUSTING • JARGON BUSTING

**Genlock** – A way of slaving one video source (eg Amiga) to another (eg video tape) in order to synchronise their signals to allow stable wipes, mixes and other effects including overlay between the two sources.

**Interlace** – A method used to double the apparent vertical resolution of the monitor by alternately refreshing the screen at a slight vertical offset, thus squeezing an extra line between each of the lines of a non-interlaced screen.

**Kickstart** – The most basic and central part of the Amiga's operating system. These days it is held in ROM, so that it is immediately present when the machine is switched on. A1000's have Kickstart on a floppy disk, meaning that on power up this disk must be inserted before the Workbench disk.

**24-Bit Graphics** – Normally, the Amiga uses between one and five bits (binary digits) to store the colour of each pixel (picture element) of a display. This means that between two and 32 colours can be displayed. Hardware add-ons are now becoming available which use 24 bits per pixel, giving a possible 16.7 million colours.

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**LOMBARD RAC RALLY** - You drive your 300 bhp Sierra Cosworth through demanding stages of the rally
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**TINTIN ON THE MOON** - We've been captured by Colonel Jorgen and he's tring to scupper the moon mission. Come on Tintin, you're the only one who can save us, and be the first on the moon
**TV SPORTS FOOTBALL** - Strap on your helmet for American football simulation that looks like the real thing.
**XENON 2 MEGABLAST** - This time it's war! The Xenites are back and have thrown time itself into turmoil.

*We reserve the right to substitute individual software titles or pack items should the need arise.*

CARTOON CLASSICS MEGA 21

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**...AND HARWOODS ALSO GiVE YOU A SUPERB BROCHURE OFFERING UP TO 16 NIGHTS FREE HOTEL ACCOMODATION IN AN EXTENSIVE SELECTION OF 400 HOTELS AROUND THE UK PLUS NOW A SPECIAL BUDGET FRANCE SUPPLEMENT IS INCLUDED!**

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*DON'T FORGET THAT WHILST YOU CAN OF COURSE PLAY THE GREATEST GAMES, WHEN YOU CHOOSE THE AMIGA YOU ARE ALSO GETTING A VERY POWERFUL PERSONAL COMPUTER. PROJECTS SUCH AS PROGRAMMING, GRAPHIC DESIGN, WORD PROCESSING OR OTHER BUSINESS APPLICATIONS, EDUCATION FOR A WHOLE HOST OF SUBJECTS FROM PRIMARY LEVEL TO 'O'LEVEL ARE ALL A REALITY WITH THE SYSTEM THAT YOU CAN REALLY GROW WITH AS YOUR COMPUTING EXPERIENCE EXPANDS. EUROPEAN COMPUTER OF THE YEAR 1991, EUROPEAN COMPUTER LEISURE AWARDS*

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**HARWOOD'S BRILLIANT AMIGA 1Mb 'MEGA 21' GAMES PACK 2**

MEGA 21

MONITOR PACK

2

PACK TWO

That's right you get the fantastic Amiga & **ALL THE EXTRAS** detailed in Harwoods "Mega 21' Games Pack 1 (left), plus F19 Stealth Fighter AND you also get...

**THE SUPERB PHILIPS CM8833/II STEREO COLOUR MONITOR**

Twin Stereo Speakers, Green Screen Switch, Free Lead to Amiga, Tailored Dust Cover
12 Months on-site maintenance warranty
*(See monitor panel for details)*

A SPECIAL PACK FROM HARWOOD'S FOR YOU SEE THOSE GAMES WITH SUPERB CLARITY AND IN FANTASTIC STEREO...

**£629.95** Including VAT

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**HARWOOD'S BRILLIANT AMIGA 1Mb 'MEGA 21' GAMES PACK 3**

MEGA 21

MONITOR AND PRINTER PACK

3

PACK THREE

That's right you get the fantastic Amiga & **ALL THE EXTRAS** detailed in Harwoods "Mega 21" Games Pack 1 (far left), plus F19 Stealth Fighter AND then you also get...

**THE SUPERB PHILIPS CM8833/II STEREOCOLOUR MONITOR**

Twin Stereo Speakers, Green Screen Switch, Lead to Amiga, Tailored Dust Cover and...
12 Months on-site maintenance warranty
*(See monitor panel for details)*

*Plus...* **THE BRILLIANT STAR 'LC 200 COLOUR PRINTER**

185/40 cps, Full Colour 9 Pin NLQ Dot Matrix Printer with FREE Dust Cover and cable to your Amiga. *(See printer panel for details)*

IF YOU WISH, REPLACE THE LC200 WITH A CITIZEN SWIFT 9 COLOUR AT NO EXTRA COST!!! OR... IF YOU PREFER A 24PIN COLOUR PRINTER, JUST CHOOSE FROM OUR RANGE & ADD THE DIFFERENCE IN PRICE BETWEEN STARS LC200 & 'YOUR CHOICE'. (eg. Citizen 224, add just £50)

A SPECIAL MONITOR AND PRINTER PACKAGE FROM HARWOODS TO SET YOU UP COMPLETELY AND ALL AT A PRICE YOU'LL FIND HARD TO BEAT!

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POWERPRO PROFESSIONAL PACK

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**AMIGA A500 WITH A FULL 1Mb. MEMORY**

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(See Monitor Panel for Specifications)

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**STAR LC200 9 PIN NLQ FULL COLOUR PRINTER**
(See Printer Panel for Specifications)

IF YOU WISH, REPLACE THE LC200 WITH A CITIZEN SWIFT 9 COLOUR AT NO EXTRA COST!!! OR... IF YOU PREFER A 24PIN COLOUR PRINTER, JUST CHOOSE FROM OUR RANGE & ADD THE DIFFERENCE IN PRICE BETWEEN STARS LC200 & 'YOUR CHOICE'. (eg. Citizen 224, add just £50)

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A HOST OF BUSINESS SOFTWARE & ACCESSORIES...
**PEN PAL V1.3 (Word Processor)...1Mb.**
**SUPERBASE II PERSONAL (Database)**
**SUPERPLAN (Spreadsheet)...1Mb.**

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**A GREAT TEN GAMES PACKAGE** Datastorm, Drivin' Force, Pipe Mania, Dungeon Quest, Rock-N-Roll, E-Motion, Tower of Babel, Skweek, RVF Honda, and Grand Monster Slam.

*Plus...*

- THE SIMPSONS
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- DELUXE PAINT III Now with ANIMATION
- MICROSWITCHED JOYSTICK
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ADD A CUMANA CAX 354 SECOND DRIVE FOR JUST £50 TO HELP RUN THOSE BUSINESS PACKS MORE EFFICIENTLY

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## EDUCATION

**HARWOODS LEARN & PLAY**

**PRIMARY & JUNIOR PACK A**

LESSON A

EDUCATION

A

PACK A

Get your children off to the right computing start with this software learn and play pack...

**PROF. PLAYS A NEW GAME**
**PROF. LOOKS AT WORDS**
**PROF. MAKES SENTENCES**
**PROF. HUNTS FOR WORDS**

Active, enquiring young minds love seeing the cartoon character called Prof. entertain and teach. Children take charge of Prof. on the computer, active learning. Follows National Curriculum(N.C.).

**MAVIS BEACON TEACHES TYPING**
A "fun" way to learn how to type PROPERLY!

**PRIMARY MATHS COURSE**
Around 24 modules in this course from 3 yrs old right up to secondary level. Follows N.C.

**READING & WRITING COURSE**
24 module course. Teaching from the computer and books. For early starters & the dyslexic.

*Plus...* **10 GREAT GAMES TOO...** Datastorm, Drivin' Force, Pipe Mania, Dungeon Quest, Rock-N-Roll, E-Motion, Tower of Babel, Skweek, RVF Honda, and Grand Monster Slam.

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ONLY IF PURCHASED WITH A POWERPLAY OR POWERPRO FROM GORDON HARWOODS.

## EDUCATION

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**GCSE/'O' LEVEL PACK B**

LESSON B

EDUCATION

B

PACK B

GCSE examination level studies on your Amiga computer that's fun!

**MICRO ENGLISH, MICRO FRENCH AND MICRO MATHS**
A set of three complete self-tuition courses to GCSE level which can also be used for revision work. All programs adhere to the National Curriculum and were designed and tested in schools by professional teachers. Micro French includes "real speech" to help your accent!

**PEN PAL- Graphical Word Processor**
A fantastic word processor with all the tools you'll need to create effective written work. Ideal for home work, projects etc. or for the families letters. Text wraps automatically around graphics, even as you type! Includes a built-in database and Forms Manager.

**MAVIS BEACON TEACHES TYPING**
A "fun" way to learn how to type PROPERLY! Learn quickly, easily and with lots of fun! Joystick & Mouse supported with "Guide Hands" on screen to help.

*Plus...* **10 GREAT GAMES TOO...** Datastorm, Drivin' Force, Pipe Mania, Dungeon Quest, Rock-N-Roll, E-Motion, Tower of Babel, Skweek, RVF Honda, and Grand Monster Slam.

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Please phone us for information and your personal application pack.

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# SOUND AND VISION

*Words and Pictures*

# CDTV



## IMAGINE, IF YOU CAN, THE CONCEPT OF A NEW, MORE POWERFUL AMIGA...

...WITH 1 MEGABYTE OF MEMORY, AND A COMPACT DISK DRIVE OF ALMOST INFINITE SIZE. A DISK DRIVE SO VAST, IT CAN STORE HUNDREDS OF MILLIONS OF DIGITS OF DATA. THIS DATA COULD BE, SPEECH, ANIMATED PICTURES, DIGITISED STEREO SOUND, COMPUTER IMAGES OR WHOLE ENCYCLOPAEDIAS.... AND MORE.

*IMAGINE THIS, AND YOU CAN START TO GRASP THE CONCEPT OF CDTV.*

THE INTEGRAL COMPACT DISK DRIVE, IS THE KEY TO THE POWER OF CDTV. ITS STORAGE CAPACITY IS EQUIVALENT TO AROUND A QUARTER OF A MILLION FULL PAGES OF TEXT. THIS WHEN INTEGRATED WITH THE 1 MB OF INTERNAL AMIGA CIRCUITRY, CREATES A SYSTEM, WHICH FROM A CD DISK, CAN GIVE YOU ACCESS TO AN UNIMAGINABLE SPECTRUM OF REAL WORLD IMAGES, NEVER SEEN COMBINED BEFORE. THESE VIVID IMAGES, WITH WORDS AND SOUNDS, GIVE YOU A WHOLE NEW DIMENSION IN HOME EDUCATION, ENTERTAINMENT & INFORMATION TECHNOLOGY. AND... DON'T FORGET, THAT CDTV CAN PLAY IN SUPERB QUALITY, ANY NORMAL AUDIO MUSIC CD, AND IT CAN ALSO PLAY THE NEW CD+G DISKS, WHICH GIVE DIGITAL SOUND AND ON SCREEN GRAPHICS.

ON CD DISKS NOW AVAILABLE, THERE ARE EDUCATIONAL PACKAGES, ENCYCLOPAEDIAS PACKED WITH REFERENCE INFORMATION, STUNNING GAMES, MUSIC SYSTEMS AND MANY OTHER NEW AND VARIED SUBJECTS, INCLUDING WHOLE WORLD ATLASES OR EVEN THE COMPLETE WORKS OF SHAKESPEARE, EACH ON ONE CD DISK!!! **CDTV - NOTHING LESS THAN REVOLUTIONARY**

## FREE CDTV STARTER PACK!!!

**WHEN YOU CHOOSE YOUR CDTV FROM GORDON HARWOOD, NOT ONLY DO YOU GET OUR LEGENDARY SERVICE, BUT WE GIVE YOU A CDTV STARTER PACK, TO GET YOU EXPLORING YOUR NEW WORLD - STRAIGHTAWAY. THIS INCLUDES A SUPERB SELECTION OF CD DISK TITLES INCLUDING THE WELCOME TUTORIAL & HUTCHINSONS ENCYCLOPAEDIA, PLUS ... FIVE GAMES, SHERLOCK HOLMES & THE HOUND OF THE BASKERVILLES, SIM CITY, A TOWN WITH NO NAME, CHAOS IN ANDROMEDA, AND THE ACCLAIMED LEMMINGS, WORTH IN TOTAL ALMOST £200.00. IN ADDITION IS THE INFRARED REMOTE CONTROLLER, AND ALL THE HARDWARE NEEDED TO GET YOU CONNECTED.**

## ALL THIS FOR JUST £499.95

CDTV IS THE SAME SIZE AND STYLE AS MOST VIDEO RECORDERS, SO IT CAN SIT UNOBTRUSIVELY ABOVE OR BELOW YOUR HOME TV AND/OR HI-FI. AND WITH ITS INFRARED REMOTE CONTROLLER, IT CAN BE OPERATED FROM YOUR ARMCHAIR. BUT PERHAPS MOST IMPORTANTLY, IF YOU ARE A COMPUTER ENTHUSIAST, REMEMBER THAT INSIDE EVERY CDTV, IS AN AMIGA, JUST WAITING TO BE USED. SO LATER ON, YOU'LL BE ABLE TO BUY THE OPTIONAL KEYBOARD AND DISK DRIVE, TO GET INTO THE WORLD OF AMIGA COMPUTING. PRINTERS, DIGITISERS, GENLOCKS AND OTHER ACCESSORIES,CAN ALL BE CONNECTED TO GIVE ACCESS TO MANY OTHER EXCITING FACILITIES, AND ALSO MANY OF THE EXISTING SOFTWARE PACKAGES AVAILABLE FOR THE AMIGA COMPUTER. NEVER BEFORE HAS THERE BEEN SO MUCH POTENTIAL FROM ONE NEW STUNNING SYSTEM, PACKED WITH

**TODAYS TECHNOLOGY.!**

*CALL IN AND SEE US FOR YOUR PERSONAL DEMONSTRATION, OR PHONE US FOR YOUR FREE DETAILED CDTV INFORMATION PACK.*

# CDTV ACCESSORIES

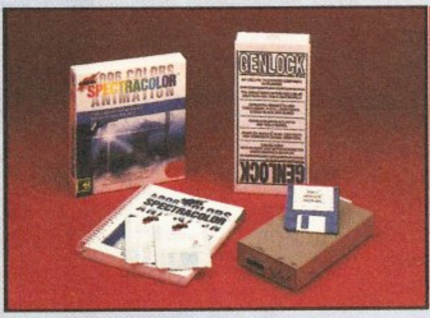
*DUE TO BE RELEASED SOON - Please call us for latest availability.*

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| CD 1401 MEMORY CARD | PERSONAL RAM CARD CONTAINING 64K OF MEMORY FOR STORING DATA OR AS A BOOKMARK FACILITY WITHIN CDTV | £79.95 |
| CD 1405 MEMORY CARD | A LARGER PERSONAL RAM CARD CONTAINING 512K OF MEMORY FOR STORING DATA OR AS A BOOKMARK FACILITY WITHIN CDTV | £249.95 |
| CD 1800 FLOPPY DRIVE | RACK MOUNTABLE FLOPPY DRIVE WITH 880K CAPACITY. CASING ALLOWS ROOM FOR ADDITIONAL HARD DRIVES OR MODEMS ETC. | £99.95 |
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Many Amiga Accessories & Peripherals (e.g. Printers, Disk Drives, Software etc.) are compatible with CDTV. Please phone us for compatability information.

## HARWOODS AMIGA

# PRO-GEN



PROFESSIONAL QUALITY GENLOCK FOR COMPUTER AND VIDEO MIXING, AT A DOWN TO EARTH PRICE!!!

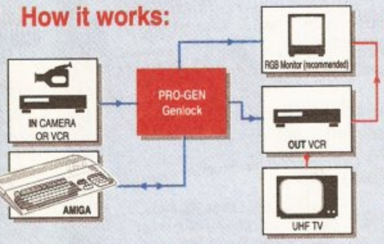
## PRO-GEN Amiga Genlock

The Pro-gen AMIGA Genlock allows you to mix your Amiga display with any PAL video signal whether it is from a VCR, Laserdisk player or a Camcorder. In fact any item of video equipment which outputs a PAL composite video signal.Combined with the Amiga computer the Pro-Gen gives you the facilities of a special effects & video titling suite. Take your own films & give them a professional look by OVERLAYING TITLES or by SUPER IMPOSING YOUR OWN GRAPHICS created in packages like Spectracolor or Deluxe Paint. Pro-Gen is supplied with Oxxi's Spectra-color paint & animation package.

## FREE

In Spectracolor every drawing tool and animation control is at your finger tips - over 50 tools in the fast menu Toolkit, plus point and click access to all 4096 colours, with independent right and left mouse button colours & modes. Add automatic animation generation easy mouse controls for all functions, and the ability to paint with multi-page animated brushes, and you've got a powerful tool for artistic expression. With animation controls this easy it's simple to put your ideas into motion. Forget co-ordinate systems and reference numbers just move objects with the mouse in this intuitive and friendly graphical environment. Spectracolor supports both ANIM & IFF file formats, and all the video modes of the Amiga, including HAM! (Spectracolor requires min. 1Mb. memory)

### How it works:




### STOP PRESS

PRO-GEN... NOW INCLUDES A VERY VERSATILE MULTI COMPONENT VIDEO TO GENLOCK CONNECTING CABLE KIT. THIS ALLOWS PRO-GEN TO BE USED STRAIGHTAWAY WITH MOST POPULAR VIDEO EQUIPMENT, WITHOUT THE NEED TO HUNT DOWN THE CORRECT CONNECTING CABLES. THIS KIT CAN ALSO BE USED TO CONNECT IN OTHER WAYS... eg. VCR TO VCR etc.
A KIT TO START YOU OFF RIGHT FROM THE MOMENT YOU OPEN THE BOX!!!

**PRO-GEN & Spectracolor ONLY £129.95**

### Mode Switch-box for Genlocks

Features Include
- Compatible With The Pro-Gen And Rendale 8802
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**£29.95**

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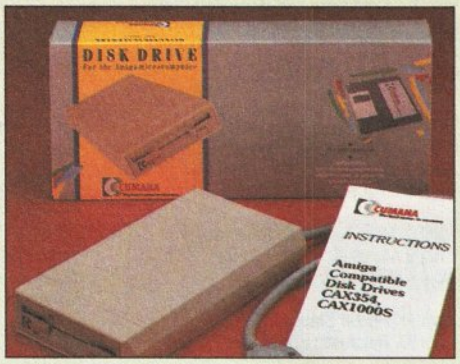
**Commodore A590 20Mb HD**

Features Include
- ☆ Connects to sidecar bus on left hand side of Amiga A500
- ☆ Autoboots with Kickstart 1.3
- ☆ Sockets For Up to 2 Mb of RAM
- ☆ DMA Access
- ☆ External SCSI Port
- ☆ Complete With Power Supply

A590 Hard Disk Including 512K RAM Only **£299.95**

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**Cumana CAX354 3.5" External 2nd Disk Drive.**
- ☆ Features Include
- ☆ Long connecting cable
- ☆ 1Mb, (880K Formatted) Capacity
- ☆ Enable/Disable Switch,
- ☆ Throughport
- ☆ Access Light
- ☆ Compatible with Amiga 500/1000/1500/2000/3000 and CDTV

**£57.95**

**SUPRA 500XP 52-105Mb HARD DISK DRIVE WITH MEMORY EXPANSION UP TO 8Mb.**

Features Include:
- ☆ Capacities of 52/80/105Mb available
- ☆ Connects to sidecar bus on L/H side of Amiga A500
- ☆ Autoboots with Kickstart 1.3, boot enable/disable switch
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- ☆ Autoboots With Kickstart 1.3
- ☆ SCSI Port & Amiga bus pass thru allows other devices to be connected
- ☆ Includes Express Copy hard drive Back-up Software
- ☆ The 52 Mb version powered by your Amiga (High Current Power Supply is only optional).

*High Current Power Supply is required for 80Mb. and 105 Mb versions. Only... **£49.95**

SUPRA PRICES

| RAM SIZE | STORAGE CAPACITY 52Mb. | 80Mb. | 105Mb. |
|---|---|---|---|
| 1Mb. | £479.95 | *£539.95 | *£629.95 |
| 2Mb. | £499.95 | *£569.95 | *£649.95 |
| 4Mb. | £699.95 | *£749.95 | *£849.95 |
| 8Mb. | £899.95 | *949.95 | *1049.95 |

**Please don't forget to add the cost of Power Supply when calculating price of 80/105Mb. drives*

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**DON'T JUST PLAY GAMES WHEN YOU CAN LEARN WITH YOUR AMIGA TOO!**

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- **MICRO MATHS** - 24 easy to use programs for GCSE ('O' Level) revision or self tuition **£21.95**
- **MEGA MATHS** - A 9 level step by step tuition course. For mature beginners, 'A' Level studies & Micro Maths users **£21.95**
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- **THE THREE BEARS** - Ages 5 -10, Develops imaginative thought/reading skills. **£22.95**
- **SPELL BOOK** - Ages 4 to 6, Developed with the help of a Primary School Head Teacher to aid spelling skills. **£17.95**
- **PLAY AND READ** - Ages 4 to 9, The complete reading tutor. Part 2 teaches spelling to the beginner at reading. **£18.95**

## AMIGA PERIPHERAL PACKS

**TWO GREAT PACKAGES THAT SAVE YOU MORE MONEY!**

These two packs are aimed at the user who needs to get a great deal from his Amiga. A superb quality monitor, the PHILIPS CM8833/II has been put with your choice of either the CITIZEN SWIFT9 or the CITIZEN SWIFT 24 printer. You choose, but whichever combination you have the price has been designed to SAVE YOU MONEY. Buying together will save you £££'s!

**PERIPHERAL PACK 1-CM8833/II + Citizen Swift 9**

Only... **£469.95** With a FREE PEN PAL worth £79.95

**PERIPHERAL PACK 2 -CM8833 + Citizen Swift 24E**

Only... **£569.95** With a FREE PEN PAL worth £79.95

# AMIGA SOFTWARE

**Music-X:** The ultimate software for professional MIDI sequencing. The software includes a configurable librarian and a synthesiser patch editor. All you need to recreate a song can be recalled from one performance file including sequences, MIDI routing, sync setup, keyboard maps & synthesiser or drum machine patch libraries. **NEW LOW PRICES - £54.95 or just £74.95 with midi-interface!**

**MIDI INTERFACE (5 Port):** In, Out, Through plus 2 switchable thru'/out. Includes cable. **£24.95**

**AMOS:** AMOS allows you to access the power of the Amiga with ease. 500 different commands make AMOS a sophisticated development language. The AMOS animation language allows you to create complex animation sequences. 300 page manual and over 80 example programs **£49.95**

**Amos Add on Modules: (BOTH require Amos prog.)**
**Amos Compiler** **Amos 3D** BUY ALL THREE AMOS PROGRAMS FOR JUST **£89.95**

**SuperBase 4:** Most powerful database available for the Amiga.Combines the ease of use of SuperBase 2 with a versatile programming language so that you can tailor your data to your own specific needs for club/business/library records etc. **£229.95**

**Lattice C:** An ideal tool for the C programmer whether experienced or a novice. The best way to create applications for the Amiga.Fully supports Motorola chipset. Nearly 300 functions optimised to help the user write the tightest possible code. Includes screen editor. Most Amiga C books are based around lattice. (Requires either 2 floppy drives OR a hard disk drive) **£199.95**

**Deluxe Paint IV:** Latest version of the Amigas first, and still the best, paint and animation package, now including HAM mode. (1 Mb. minimum memory or more recommended) **£79.95**

**Vidi, The Complete Colour Solution:** Vidi with RGB Splitter, Frame Grabber & Digitiser. Grabs moving colour video into 16 grey scale frames (up to 16 frames in 1Mb. Amiga) and digitises from still colour video source in up to 4096 colours in less than 1 second! Requires home VCR or video camera for grabbing. Requires video camera or VCR with perfect pause for digitising. Now comes with Spectracolor FREE!!! **£179.95**

**MASTERSOUND:** High quality "mono" sampler (best for sampling instruments etc.) **£36.95**

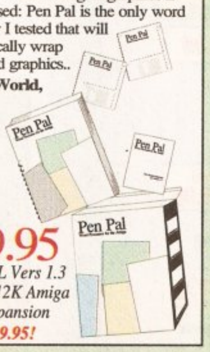
*THE ABOVE IS JUST A SMALL SAMPLE FROM OUR EXTENSIVE RANGE OF THOUSANDS OF SERIOUS, EDUCATION AND RECREATION TITLES.WE CAN'T LIST THEM ALL HERE SO PLEASE CALL US IF YOU CAN'T SEE THE PROGRAM YOU REQUIRE, IT'S PROBABLY IN STOCK!*

**Pen Pal** V.1.3

**WORD PROCESSOR/DATABASE**

With Pen Pal you can mix text, 4096 colour graphics & data in ways no other w/p can! "It's handling of graphics is unsurpassed: Pen Pal is the only word processor I tested that will automatically wrap text round graphics..

**Amiga World, July '90**




**£79.95**
*PEN PAL Vers 1.3 WITH 512K Amiga RAM Expansion only...£99.95!*

*If you're thinking about presents why not buy a Harwoods Gift Voucher (all values available).*

Enquiries & Order Line: **0773 836781**

Finance Facilities Available*
Please phone us for information and your personal application pack.

**GORDON HARWOOD HARWOOD HARWOOD Computers**
ALFRETON DERBYSHIRE

***The Closer you look, The Better we look.***

**Finance terms are available (subject to status) for most products, please see our ordering panel at the end of this advert for full details*

FREE... Fully Tailored Dust Cover with all Dot Matrix Printers

# PRINTERS

NEW LOWER PRICES!!!

**All printers in our range include the following standard features...**

- ☆ Standard Centronics parallel port unless otherwise stated for direct connection to Amiga, PC's, ST etc. and come with a:
- ☆ FREE CONNECTOR LEAD & A FREE TAILORED DUST COVER!



When you are comparing our prices to others make sure that the same essential items are ncluded eg. Printer Lead, Dust Cover, Postage and VAT etc.

### CITIZEN 120D+ 9 PIN MONO - Up to 120/25 cps — £149.95

- Very reliable low cost printer with interchangable interfaces for Centronics/RS232/serial type (C64 etc.)
- Full 2 Year manufacturers warranty

### NEW FASTER STAR LC20 9 PIN MONO - Up to 150/38 cps — £159.95

Replacement for our most popular Mono Dot-Matrix at a super low price

- Multiple font options easily accessible from front panel
- Excellent paper handling facilities
- Simultaneous, continuous and single sheet stationery
- 240 x 240 dpi Graphics

### CITIZEN 124D 24 PIN MONO - 120/40 cps — £199.95

- 360 dpi - 24 Pin MONO with 3 Fonts
- 8K Buffer - Expandable to 32K
- 3 Fonts, Superb letter quality
- Full 2 Year Warranty
- Feed for labels & multi-part stationery
- Complete paper parking facilities.

### STAR LC 24/10 24 PIN MONO - 150/50 cps — £214.95

24 Pin version of the Star LC Series with

- Exceptional letter print quality
- 360 x 360 dpi Graphics
- Additional font cartridges available
- 8 resident fonts

### STAR LC200 9 PIN COLOUR PRINTER - 185/40 cps — £209.95

This is the one in our packs!

- 80 Column Dot Matrix
- 240 dpi - 9 Pin COLOUR
- 16K Buffer, 8 Resident Fonts
- Push/pull tractor & rear/bottom feeds
- Reverse paper feeds
- Micro paper feed, Max. paper width 11.7"
- Supplied with colour & mono ribbons
- Paper park with auto single sheet loading
- Programmable from front panel.
- 12 month warranty

### CITIZEN SWIFT 9 PIN COLOUR - 160/40cps — £219.95

New super high spec 9Pin colour printer

- 8K Buffer 4 Fonts
- Push and pull tractor built-in
- Feed for labels/multi part stationery
- 240 x 240 dpi Colour Graphics
- Best text quality in our 9Pin range
- 2 Year Citizen warranty

### STAR LC24/200 24 PIN MONO - 220/55 cps — £249.95

New Star 24 pin that means business!

- 80 Column Dot Matrix
- 360 dpi - 24 Pin MONO
- 7K Buffer expandable to 39K
- 10 Resident Fonts
- Front Panel Pitch Selection
- Push/pull tractor & rear/bottom feeds
- Reverse paper feed
- Paper park with auto single sheet loading
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| Citizen 120D+ Parallel Interface | £49.95 |
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| Citizen 124D Semi-Auto SheetFeeder | £39.95 |
| Citizen 124D Automatic Sheet Feeder | £79.95 |
| Citizen 124D Printer Stand | £24.95 |
| Citizen Swift 9 Semi-Auto SheetFeeder | £39.95 |
| Citizen Swift 9 Automatic Sheet Feeder | £79.95 |
| Citizen Swift 9 Printer Stand | £24.95 |
| Citizen Swift 9X Printer Stand | £34.95 |
| Citizen Swift 9X Automatic Sheet Feeder | £139.95 |
| Citizen Swift 24 32K Printer Buffer | £13.95 |
| Citizen Swift 24 Semi-Auto Sheet Feeder | £39.95 |
| Citizen Swift 24 Automatic Sheet Feeder | £79.95 |
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| Automatic SheetFeeder | £74.95 |
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| Automatic SheetFeeder | £74.95 |
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| 32K Printer Buffer | £34.95 |
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| Pull Tractor | £34.95 |
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| Styles To Be Announced | £29.95 |
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| Automatic SheetFeeder | £114.95 |
| Dual Bin SheetFeeder | £429.95 |
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| CITIZEN 124 | BLACK ONLY | £4.95 | £24.95 | N/A | N/A |
| CITIZEN SWIFT 9 | BLACK/COLOUR | £4.95 | £24.95 | £16.95 | £99.95 |
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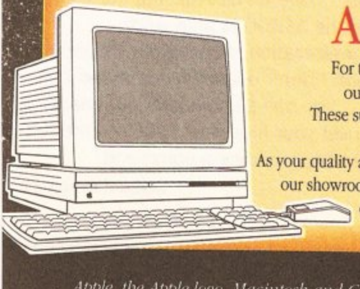
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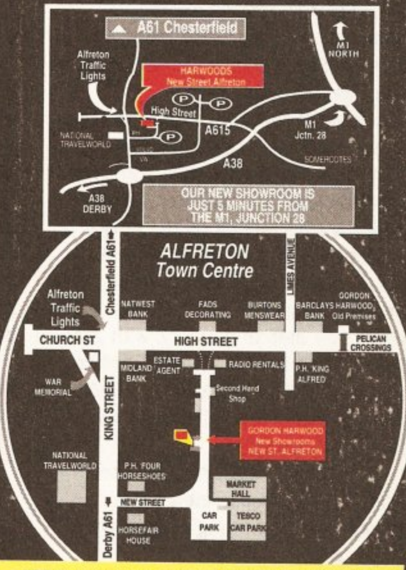
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there more for convenience than any other reason, I guess.
2) Yes, with the usual caveat that VHS will do, but don't expect broadcast quality as it's often the tape medium affecting the quality, rather than the output device.
3) Yes, I should think so, as the Toaster would simply be acting as a genlock. I know it worked OK with *DPaint 3* for me.
4) If the program's output conforms to IFF24 standards then the answer is sort of yes, but you'll have to load the graphic into the Toaster's software first.
5) No, only 24-bit.
6) No, no and yes – in that order. If you want to produce animations using Toaster images (generated by *Lightwave* or *ToasterPaint*) then you'll have to record them one-by-one to a frame accurate video recorder. To synchronise sound you could use *Showmaker* (see review in this issue) but that would require more hardware (including another Amiga), so you may as well do it in the edit.
7) Remember that any video output from the Amiga will be interlaced and not affected by flicker. If you are concerned about having steady images on your Amiga monitor(s) then you should know that Impact Vision has a built-in flicker fixer and that the ICD should work with any cards which fit the video slot, though I could find no references to problems with MegAChip 2000 installed (but that's not to say there won't be any, of course).
9) I suppose that you might just be able to scrape along with 512k of Chip RAM, but it would like sprinting with your legs tied together. Serious graphics applications on the Amiga require at least 1Mb of Chip RAM.
9) I'm curious why you should be asking this, as you say that your Amiga has 3Mb of memory, with 2Mb of that being expansion RAM. Yet you state you only have 512k Chip RAM according to AVAIL. Where has the other 512k gone?

At any rate, upgrading to more Chip RAM is unfortunately not a simple matter of fitting a new Agnus Chip – a certain amount of soldering/track cutting is also required, and there's no easy method of adding the new RAM to the Agnus's address lines. Probably the easiest method is to buy what you suggest, DKB's MegAChip 2000, which will give you 2Mb of Chip RAM.
10) I can't say more than the sales pitch does – the MegAChip 2000 (a 2Mb upgrade for most Amiga 500 and 2000s) 'works with Commodore 2630 and GVP accelerators'.
11) The best monitor for price/performance that we are aware of is the Citizen ProCM14i multi-scan at £351.33. It has a dot pitch of .25mm and supports resolutions up to 1024x768 .You should have no hardware worries at all.
12) I consulted Jolyon Ralph, hardware guru, for the answer to this one. Different types of RAM are prioritised by the operating system on boot-up, with any 32-bit RAM in your system having a higher priority than the 16-bit RAM. Most programs (just about everything aside from games) ask the operating system for any memory they require. Consequently, the 32-bit (high speed) RAM is used before the 16-bit, although this will be used too if necessary. This answers the second part of your question: 4Mb should be enough RAM, but if not, the RAM you have will be called into service.
13) They are actually two rather different beasts, with the Toaster being dependent on its own software whereas the IV24 is able to use third party (though modified??) programs. IV24 has no vision mixing or special effects and lacks many of the functions that make the Toaster so interesting as a video production tool, though the IV24 does have PIP (Picture-In-Picture), so you can have a video 'window' on your graphics or you could just mix Amiga graphics with incoming video if you so wished. I'd like to tell you more about the IV24 but having only seen it on display at the World of Commodore Show I think I'd better reserve further judgement for now. On the last point, to record the IV24's output you'll need a recorder capable of accepting S-VHS type component signals, though the unit will also apparently produce composite and RGB signals as well. ***GW***

## FLASHY PRINTER



**When I try to use a printer (I've tried four) with my machine it hangs with the power LED flashing – even printing from Workbench. When I try to do a soft reset the machine just freezes completely, the screen goes white and the Workbench logo does not appear. This can only be cleared by switching off and on again.**

**Ayoola Orimooye**
**Croydon**

This is one I have come across occasionally with third-part software which gets confused when the printer does not open – but never from the Workbench. This sort of query is difficult to answer because I could not replicate your problem. Three possible causes come to mind:
• You haven't got the printer configured correctly, or
• You are using the wrong cable, or
• Your machine is faulty.
The best solution would be to take the machine to a friend's house or a friendly dealer and get them to check it over with a working system. That is, replace the working Amiga with your machine, boot it from a working disk and try again. If the same thing happens then your machine is at fault; if not, then the problem lies with your software. If any other readers have come across this particular malady, perhaps even solved it, I'd be interested to hear from them. ***MS***

## GHOST IN THE MACHINE



**When my Workbench pointer is in the PAL area of the screen (lines 200-255 in low resolution mode) a 'ghost' pointer follows it, lagging as the pointer moves. When the pointer is changed to a different graphic while in the PAL area of the screen, the old sprite is left behind, immobile. It disappears if the pointer is restored to the original graphic.**

**This happens every time, on a vanilla Workbench or on my own customised one.**

**W Stephenson**
**Rothbury**
**Northumberland**

This is a bug in Workbench 1.3 which can manifest itself as soon as any Fast RAM is added to the system. There is no known solution, so I'm afraid you'll have to live with it. At least it's harmless. ***CR***

## NOISY READER



**I own an Amiga 500 with 1Mb of RAM and I enjoy composing modules using *NoiseTracker 2.2*. My latest creation is in two different parts and I can't find any way of mixing them together. Is there a way of joining these modules so that I can play the first module whilst the second is loading and then play the second as soon as the first has finished?**

**Richard Price**
**Kidderminster**
**Worcs**

The cheapest way of joining the two modules together is to enter all the song data from the second song into the first from scratch. OK, I know that's not quite the answer that you wanted to hear, but *NoiseTracker* doesn't allow you to merge modules and I certainly haven't seen a PD program that will do the job for you. If you don't fancy having to key in all that music data, then you could try writing your own player program using AMOS. ***JH***

## SCROLL LOCKED



**I want to fit either an XT or AT bridgeboard to my Amiga A1500. I have been reading about MS-DOS and *GW-Basic* and looking at the difference between the A1500 and PC keyboard. Please explain the Scroll and Num Lock keys as these appear to have no effect on the A1500 but operate warning lights on my PC. I've failed to find reasons – is it obvious?**

**Can you also clarify the difference between the XT and AT bridgeboards, and tell me if I learn to use an AT system will I still be able to use the XT?**

**When I use the LIST command on my hard disk it lists up with only the day shown. Is it possible to put the date on full display?**

**P Hall**

The Scroll Lock key is reserved for use by software – MS-DOS doesn't do anything with it. It's generally used to pause the display at the end of pages and print a "more...?" prompt or something similar. Num Lock changes the function of the numeric keypad. In normal mode, the number keys act as cursor keys, whereas when Num lock is on, they activate numbers. This was for compatibility with the ancient XT machines which didn't have a separate cursor keypad – like your A1500 has. Some software (*Protext PC* for instance) can force the state of these keys – they aren't used very much these days though.

The XT bridgeboard was Commodore's first offering as a PC emulator, and not to put too fine a point on it, it's rubbish. It only comes with an 8088 processor and 512K on board RAM, leaving very little room for programs once DOS has been loaded. The AT card is better; it comes with an 80286 processor and 1Mb. It's also got better access to the hardware. Quite frankly though, the KCS card which is now available for the A1500 knocks both of these into a cocked hat. It's faster, better specified with a fine emulation of CGA graphics, and has 16 colour E/VGA just around the corner. If you must have an 80286, the Vortex unit for the A1500 is also worth consideration, although in its present form I don't usually recommend it.

You can get the LIST command to list your files with date information by simply adding a command

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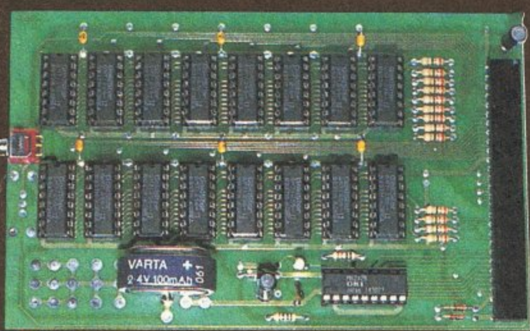
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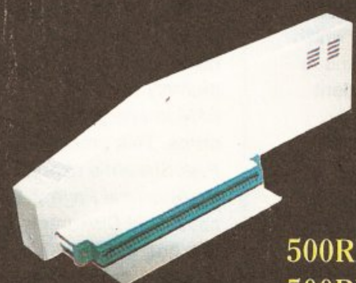
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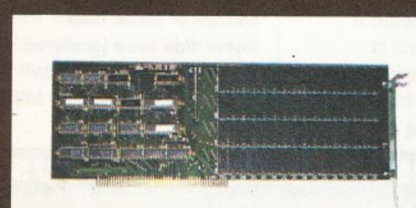
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argument like this:

```
LIST DATES
```

It's easy when you know how. LIST has a whole gaggle of other options, far too many to cover here. You can experiment with them by entering:

```
LIST ?
```

and trying them out for yourself. If you need further help, you could consult my regular column on AmigaDOS or look in your bookshop for my book, *Mastering AmigaDOS 2, Volume 2* which has a very complete coverage of all the AmigaDOS 1.3 commands (don't just buy it for that though – ask the local library for a copy). Abacus Software also does a vast range of titles for the Amiga, so you could try them too. ***MS***

## CLOCK WORK

**During startup, Workbench displays the message:'Battery Backed up Clock not found'. I have established that the clock runs after setting it in preferences and also that the battery is OK (tested with a voltmeter). Having turned power off and on again I am returned to square one.**

**Clyde Martinbill**
**St Albans**

It sounds like the clock is malfunctioning. This fault is more difficult to diagnose than just testing the battery is OK (although that's a good place to start). The battery-backed clock is only read once during startup – it takes about a second – after that the time is maintained by the system. You could check it using AmigaDOS to make sure it is actually receiving and storing the new time like this:

```
DATE 13:30       ; set the ↵
time to half-past one (say)
SETCLOCK SAVE    ; save the ↵
new time and date
SETCLOCK LOAD    ; attempt ↵
to reload
DATE    ; check the date ↵
and time
```

SETCLOCK will check for the clock, whereas Preferences does not! Some rogue programs can kill the clock too, so you can reset the clock from scratch like this:

```
SETCLOCK RESET
```

and start again. If that doesn't fix it you'll have to get the machine checked over by a dealer. ***MS***

## PURE AT HEART

**How do I make a program pure so that it can be made resident. I program in C using *SAS 5.10* and know roughly what is required but have not been able to write a usable program. My problem is that when using the -tr option of the compiler I get warning messages, eg absolute references to _SysBase in the file amiga.lib or _IntuitionBase etc.**

**I understand why these absolute references exist, but how can I call system functions without using their constant library pointer? I can make a copy of the pointer but since there will be no specific reference to it in the function call I suspect that it will be ignored.**

**If you cannot explain my problem could you give me the names of some books which might cover this area (preferably using C).**

**Nevil Underwood**
**Milton Keynes**
**Bucks**

I'm not at all surprised that you've not been able to find much help in the standard Amiga literature. Pure applications program code really only became of interest with Workbench 1.3 (when the resident command became available) and many existing Amiga books were either already published or near to publication before this. Coupled to this there's another problem: Pure code is difficult to write, and to be honest, surprisingly few Amiga programmers have tackled such code on a regular basis. John Toebes and Carolyn Scheppner are two of the few names that come to mind.

Having said that, a lot of Amiga users are in fact getting interested in this area so it's worth spelling out the problem step-by-step: To be made resident a program should be both re-entrant and re-executable. Re-entrant code is able to support multiple independent use (ie the single piece of code should be able to run as part of two or more processes at the same time). Re-executable code is code that does not have to be re-loaded in order to be re-executed. Programs which are both re-entrant *and* re-executable are called 'pure' and, as mentioned above, it is this type of code which can be resident. What happens is that the Workbench 1.3 resident command loads *one* copy of a program and adds it to the DOS resident list and in doing this makes the pre-loaded program available for multiple user access.

You've mentioned that you are using *SAS C* and you know that the -tr option forces the compiler to use the cres.o, resident startup code, module. What you haven't done is provide any code so I can't really tell what potential problems are present although the warning messages obviously suggest that the snags are related to your use of the library pointers and perhaps other globals.

Do you realise that when creating pure code you cannot make either direct or indirect references to stdio globals (stdin, stdout etc.)? Nor can you use global or static variables within your program. Global constants, eg string messages, can be used as can global copies of library bases needed to resolve the Amiga.lib references. The library base oriented code does have to be handled somewhat differently from normal. What you have to do is first collect the OpenLibrary() return values into non-global variables and then only copy the local result to the global library base if the library open call was successful.

The standard approach is to create a structure definition to hold the variables that you would normally designate as global, use AllocMem() to create the local copy, and then reference them indirectly from the structure pointer. I've not seen any official Commodore guidelines for this type of code but since there are a number of public domain offerings floating around, I think it would be worth contacting a few PD libraries to see what they can come up with. You will incidentally find one piece of pure source code, called 'avail' and written by Gorden Keener and John Toebes, in the examples directory of your SAS complier. ***PAO***

## CHARACTER WITNESS



**When in *PageStream 2.1* I print using the NEC-P6 printer driver. Most of the time it works fine at 360 by 360 resolution. With large fonts though it sometimes misses a character out. I think it is a memory problem. I have an Amiga 500 Plus with 3Mb fitted. If so, are any of the memory expansion boards 32-bits wide as I am considering buying a 68030 accelerator?**

**Neil J McRae**
**Edinburgh**

Depending on the complexity of the page, it could be a memory problem, although *PageStream* is supposed to recognise when there isn't enough memory to create the whole page in RAM in one go, and do it in smaller strips. This problem plagues *PageStream*'s rival package, *Professional Page 2.1*, and in that case Gold Disk freely admits that it is a bug in AGFA's Compugraphic routines, so the same might be true with *PageStream*. Having said that, I've got 9Mb of memory and have never had problems with the output of large fonts from *PageStream*.

On the question of 32-bit memory expansions, the only 32-bit ones are the ones that plug directly into 68030 boards. If you're going to buy one of these accelerators it's not worth getting 16 bit memory, wait until you buy the 030 and then get some 32-bit memory. ***JW***

## DOUBLE BUFF

**Using AMOS, I have written several programs which use double-buffered screens, and several which use menus. However hard I try, though, I cannot persuade the menus to work alongside a double-buffered screen. The menu always ends up permanently displayed on the wrong screen. Can you recommend a solution, please?**

**R Smith**
**Sidcup**
**Kent**

Well, I puzzled over this one for quite some time, and came up with

## JARGON BUSTING • JARGON BUSTING

**Double Buffered –** A trick used to avoid flicker with animations. Screen information is held in memory, and in the case of a double-buffered screen, two images are stored. Changes are made to one image while the other is being displayed. Once the changes are complete, the modified screen is displayed, and the other is hidden.

**Global –** Refers to a variable declared in a high-level language such as C. A global variable is visible to and can be used by all parts of the program. Nearly all variables in a Basic program are global.

**Local –** A local variable in a high-level program is one which is only visible in the function in which it is declared. Variables within an Amiga Basic Subprogram are local unless declared otherwise with a SHARED keyword.

**Static –** In C, a static variable is a local variable which keeps its value after a function call, instead of being destroyed.

**32-bit Memory –** Normally, memory on the Amiga is 16-bit. This means that when information is received by the processor from RAM, it is done so in chunks of 16 binary digits at a time. 32-bit memory is sent in 32-bit chunks, thus increasing the speed of information transfer.

nothing. I then asked a couple of the folk who frequent the AMOS topic in CIX, and they were stumped too.

But, the truth will out. A message came from M Francois (the programmer of AMOS), via Kevin Hall, that current versions of AMOS will not support double-buffering and menus. You can either write your own user selection routines or wait around for AMOS version 2. ***CR***

## FRENCH LETTERS

**I'm learning French, and have been for a long time. De Gaulle was a young man when I started – er, well perhaps not that long.**

**I use the word processor for homework and like putting the accents over the e's, but I don't have a French spelling checker, dictionary or thesaurus. Are any available? I would even consider trading up on *KindWords!***

**PG Bostock**
**Benfleet**
**Essex**

A complete French dictionary and thesaurus is available for *Protext 5.5*. It costs about £30, but you need *Protext 5.5* as well, of course, which will cost about another £150.

I notice from your question slip that you only have 1Mb of memory, and although *Protext 5.5* will run happily with 1Mb, I would recommend you buy another 1Mb or 2Mb so you can copy the dictionaries into RAM and check spelling at speed – doing it from floppy is very slow indeed. ***JW***

## AMERICAN ADVENTURE

**I want to buy a GVP Series 2 hard drive, but I don't want to send to Britain for it. Would it be possible for you to print the American address of Great Valley Products?**

**Richard Warlow**
**Timaru**
**New Zealand**

No problem. The address is:
Great Valley Products, Inc.
600 Clark Avenue
King Of Prussia
PA 19406
USA

***CR***

## CUT THE TRACK

**According to Smiddy's Red Hot Tips in issue 6 of *Amiga Shopper*, my setup should have 1Mb of Chip RAM. However, I have had to arrange an alteration to the motherboard to enable this – is Smiddy correct in what he says or is there some other way to enable the 1Mb Chip RAM without having to undertake a £39.99 conversion job?**

**Both *SysInfo* and *VectaCheck* confirm that I have the Fatter (1Mb) Agnus. My system works fine at the moment with 0.5Mb as Chip and 0.5Mb as Fast RAM.**

**Graham Smith**
**North Featherstone**
**West Yorkshire**

Yes, Mark is perfectly correct in what he says. Many Amigas were shipped with the Fatter Agnus, but without this chip properly enabled, so that it behaved like the old Fat Agnus and accessed a maximum of 0.5Mb of Chip RAM. In order to access 1Mb of Chip RAM, it is necessary to make the alterations to the motherboard to which you allude. ***CR***

## THEM AND US

**I have been offered an Amiga 1000 by my cousin in America. Could you please advise if it would need any modification prior to use in this country. If so could you supply the necessary parts and how much would they cost.**

**Neil Lindsay**
**Ipswich**

Simple answer this one: don't even bother. The cost of replacing the PSU to run at 240V, the custom chips to run at full PAL resolution and so on would be more than the cost of a perfectly good A500 Plus. In fact the A500 is a much better and more up to date machine. Commodore no longer supports the A1000, insofar as it's concerned it's ancient history. We cannot supply parts or software for any machine or for any application, unless we have specifically negotiated an *Amiga Shopper* Reader Offer. ***MS***

## SCRIBBLE! IN ENGLISH

**My children like to use *Scribble!* from The Works! However, the spelling checker uses American spellings. I am able to add new words to the dictionary but I would like to be able to remove words as well and replace them with the English versions.**

**I am sure there must be a simple way to do it, but I have not yet found it. Any ideas?**

**Julian Gawthorpe**
**South Wingfield**
**Derbyshire**

Nope. Can't be done with what you've got. But thanks to popular demand there has been a proper English dictionary available for *Scribble!* (and its big brother, *Excellence!*) for a few months now. You should contact HB Marketing on ☎ 0753 686000. They will require the original disks as proof of purchase, plus a couple of blanks to copy the new version on to, plus a stamped, self-addressed padded envelope in which to return your originals and the upgrade. No charge is made for this service so be sure to say 'Thank You' nicely. ***JW***

## COMPATABILITY CITY

**I recently purchased a Cartoon Classics bundle and upon opening it I found that I was one of the lucky 3000 or so owners of an A500 Plus.**

**The manual which comes with the computer makes no mention of incompatibility with the A500. However, a recent magazine article suggested that there would be some slight problems with programs written more than 18 months ago.**

**A local software shop, however, is reporting that up to 40% of games in stock fail to run on the new machine. Can you tell me if this problem is as bad as some would have us believe, before I go out and spend £30 on a game only to find my screen turning to rubbish?**

**A Lloyd**
**Carterton**
**Oxon**

Reports as to incompatibility problems vary widely, with Commodore claiming that less than 2% of programs fail to run. In reality, the failure rate is likely to be higher.

The reason you have heard that programs older than 18 months will not work is because all registered developers were notified by Commodore at that time of the impending release of Workbench 2. However, not all producers of software are registered developers, nor have all developers chosen to heed Commodore's warnings.

What you can expect is that most serious software will run without problems. Most PD software is unlikely to work. Commercial games are more hit and miss. The only solution is to ask for a demonstration on an A500 Plus of any software you intend to buy. ***CR***

## WHICH DRIVE?

**I have just upgraded to an Amiga 1500 from an A500 which I owned for 2 years. I hope to buy a hard drive and memory expansion as soon as possible. The problem I'm having is in deciding which hard drive and interface I should buy, and whether it's worth buying a memory board.**

**I have seen advertised SCSI interfaces with memory space, so is it worth buying one of these instead of an interface and memory board separately? Which is cheaper? Which option do you recommend? Also, where will I put the hard drive, as I already have two 3.5 inch floppy drives?**

**Duncan Hardy**
**Stalham**
**Norwich**

In our hard drive round up, we found the best drives available to be the Supra Wordsync 2000 (from WTS Electronics ☎ 0582 491949 for £449) and the GVP Series II A2000 HC+8 (from Silica Systems ☎ 081 309 1111 for £299). These prices are for 52Mb drives, although the Supra unit comes with the very fast Quantum hard drive, and is thus more expensive. The other difference is that it has no room for memory expansion on-board, whereas the GVP drive has room for up to 8Mb. Bearing in mind that a memory expansion board costs around £120 without any RAM chips, the GVP unit seems to be the cheaper option.

There's no need to worry about where the drive will go. Both the card and the drive itself (which is fixed to the controller card) fit into one of the A1500's slots. There is no need to remove one of your floppy drives. ***CR***

## INVISIBLE TEXT

**I have *PageStream 2.0*. It's on four disks. The disks have version 2.1 on them. It crashes on trying to stretch text and most times when zooming in. It seems hit or miss whether text appears when typing.**

**I should add that the crashes occur when trying to carry out the above things with the 'invisible text'. This happens whether run from copies of the originals or from the hard disk.**

**Alan Foster**
**Southampton**

The same thing happened to me when I first got my hands on *PageStream 2.1*, and I remember that it took a phone call to Soft-Logik in America to sort it out.

The difficulty is in the Font Manager part of the program. You need to tell *PageStream* where your fonts are. So select Fonts/Points from the Style menu and click on the Manager button in the requester that appears.

One at a time, click on each font drawer and then Update – so, for instance, click on PSFonts/CSTriumvirate then on Update, click on PSFonts/CSTimes then on Update, and so on until you've updated the whole list.

Don't click Exit when finished,

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click Default (and then OK from the Fonts/Points requester); this ensures that *PageStream* remembers where all the fonts are the next time you load. ***JW***

## A1000 PROBLEMS



**I have recently purchased an A1000 with 1Mb of RAM running Workbench 1.2. I wonder if you could answer of a few questions I have regarding this machine:**

**1) Where can I get a (legal, obviously) copy of Workbench and Kickstart 1.3 on disk?**

**2) Subsequent to writing the first draft of this letter, Commodore launched the A500 Plus complete with Kickstart and Workbench 2. What are the chances of this working with my A1000?**

**3) Can you recommend a (preferably) PD program which will allow me to dissect disks, examine files and edit sectors in hex? I'd like to be able to examine non-DOS disks such as demos and maybe even modify my Kickstart disk. Steve Tibbett's *DiskX* is good, but it doesn't like non-standard formats.**

**4) Probably a really daft question this, but I didn't get any manuals with my new machine. If I add files to a drawer on my Workbench disk, how do I permanently resize the window so that each time I open it I don't have to rubberband the borders to see the extra icons?**

**5) Can you tell me which hard disk drives are compatible with the A1000? I know the A590 is, but if I buy it populated with extra RAM, will this work OK with the A1000?**

**Bill Bennet**
**Oxford**

You're in luck – it just happens that I too own an A1000 (classic machine!) and I've also had to live through most of the problems you've encountered. Anyway, here's the answers to your questions:

1) All you need to obtain a legal copy of 1.3 is the 1.3 Enhancer pack from Commodore. This is still available for about £15 from most good mail order companies, but if you have problems then give Commodore a call on ☎ 0628 770088. The pack contains the disks you need to get 1.3 up and running on your machine, including an A1000 Kickstart disk.

2) Officially, the answer is no. Commodore have said for a long time that they have no plans to release 2.0 for the A1000 (the price of progress, it's claimed), but there are ways of getting around this.

If you can find someone who sells it, the answer to your problems lies in a clever plug-in card called the A1000 Rejuvenator. This card (which fits internally) allows you to run not only Kickstart and Workbench 2.0, but also the new Enhanced Chip Set. Unfortunately, at £450 it is rather expensive – for the same price, you could buy an A500 Plus and still have a money left.

I haven't actually heard of anyone selling it in this country, but you could try phoning the US developers Expert Systems direct on ☎ 0101 606 371 9690.

It is actually possible to get Workbench and Kickstart 2.0 running on an A1000 without buying the Rejuvinator card, but obtaining the software you need is not exactly easy. During the beta test stages of 2.0, Commodore issued developers with the Kickstart ROM on disk as a binary file. Providing you had the correct type of Fast RAM, a small program called *ZKick* (which was also on the disk) loaded this file into memory, locked it away and then rebooted the machine under 2.0. I know for a fact that it works on the A1000 as I've been running 2.0 on my own A1000 for about six months now using this very program.

Unfortunately, getting your hands on *ZKick* and this appropriate Kickstart file is not going to be easy. Unless you can talk Commodore into parting with it, I doubt that this will be the answer to your problems. What I suggest A1000 users should do is to write a letter to Commodore asking the company to make 2.0 available for their machines. I'm sure that if enough people write in, Commodore may well change its corporate mind and release an upgrade for the A1000.

3) I'm surprised that you're having problems with *DiskX* as it should do the job perfectly well. When you insert a non-DOS disk, AmigaDOS will complain but just ignore this. Cancel all the 'Disk is unreadable' requesters until AmigaDOS has stopped complaining and then carry on as normal.

4) Easy. All you have to do is to stretch the window out to the required size, click on the directory or disk icon for that window (the window should stay activated) and then select 'SnapShot' from 'Special' menu on the Workbench. This will then save the window's size and position to disk.

5) Most A500 hard drives that run through the expansion bus should work with the A1000 due to the fact that both share an almost identical bus. The only real problem is that the A500 connector is on the left hand side and the A1000's connector is on the right which means that any A500 add-on that you connect to the A1000 will be reversed (the back of the unit will face forward).

You're right in saying that the A590 works fine on the A1000. I myself have been using one on an A1000 for over a year now and I've never encountered any problems. You'll also be pleased to learn that the expansion RAM inside the A590 works fine on the A1000. With A1000 RAM expansions going at such extortionate prices, the A590 provides a cheap way of upgrading your machine. ***JH***

## FILE TRANSFERS



**I haven't got a modem, but I would like to download Amiga programs from a BBS to my Dad's PC, which has a modem card fitted, and then transfer them to my A500 with the help of programs such as *MessyDOS* or *MessySid*. Is this possible?**

**Alan Hoyle**
**Brussels**
**Belgium**

Yes, it sounds perfectly reasonable. I can think of only two problem areas: The first is that MSDOS only supports filenames with 8 characters, followed by a full stop and a maximum of three extra characters. This won't cause difficulties unless you're downloading two or more files whose names are the same for the first 8 characters. In this case you'll have to download one and then rename it under MS-DOS before downloading the next.

The other problem is that AmigaDOS stores a certain amount of status information with a file. It is unlikely that this will come across correctly via MS-DOS. For programs, the important bit is the 'executable' flag. This must be set (switched on) before a program can be run. Once you have the file on your Amiga, you can check if this is set by using the Shell's list command:

```
list diskname:directoryname ↵
/prog name
```

After the program's name and its size in bytes, you will see its status information displayed. It looks something like this:

```
-p-rwed
```

If, instead of an 'e', you see a dash, then type:

```
protect diskname: ↵
directoryname/progname +e
```

Similarly, if what you've downloaded is a script file, then you must set the script flag. To do this type:

```
protect
diskname:directoryname↵
/progname +s
```

***CR***

## LONG AND HARD



**I want to buy a hard disk to go with my 2Mb A500. I have contacted several companies [names supplied – Ed] but just get a standard letter written by someone in the sales department 18 months ago and a heap of useless information. I want a drive of around 50Mb, compatible with 1Mb Chip and fairly fast (sub 25mS) and which looks like a proper add-on, not an afterthought. I can't get a straight answer elsewhere so I thought I'd try you.**

**If I buy an A500 drive will I be able to fit a flicker-fixer and processor accelerator later on? Also, is there an Amiga word processor to allow the correct use of tabs etc. on my DeskJet Plus?**

**Stephen Luxton**
**Falklands**

There are a number of drives that should suit – anything fitted with a 52Mb Quantum should suffice. The GVP Series II is still my favourite. Other good units are available from Protar and Roctec; although I have not bench tested either of these yet.

All external hard drives have to be fully compatible with 1Mb Chip or they wouldn't work on a lot of machines. At least one of the companies you mention surprises and disappoints me (I won't mention it to save embarrassment). There's no reason why you shouldn't fit extra hardware such as an accelerator and flicker fixer to your machine – but if you want all those extras an A1500 would be a better bet since it's designed to take them.

A word processor to drive your DeskJet is more of a problem – I know Arnor's *Protext 5* includes a Deskjet driver written by Doug Thompson, but you might find a full-blown word publisher such as Digita's *Wordworth* more suited to your needs. ***MS***

## PC PLEASE



**For a number of years now, I have used an IBM PC under Dos 2.0 in conjunction with a twin disk unit taking 5.25 inch disks. I also have an Amiga A2000 HD which includes an A2091-40 hard disk. The Amiga of course uses 3.5in disks.**

**I've accumulated many IBM programs and I'd be pleased if you would advise me how these can be transferred to the Amiga.**

**Alec Turrall**
**Epsom**
**Surrey**

The Amiga can not normally use your IBM PC programs – the two

machines are incompatible. However, you can turn your Amiga 2000HD temporarily into an IBM PC by purchasing a Bridgeboard. This usually comes complete with an IBM high density 5.25in drive which will load your existing IBM software and enable you to run it.

You can flick between IBM and Amiga in the normal way from window to window and it will also enable you to convert text files from the IBM to Amiga and vice versa. Two types of Bridgeboard are available, either an AT or XT. I would suggest that you only require the XT version which should be considerably cheaper than purchasing the AT. Any other form of software or hardware emulation would not be practical because of the different drive specifications. ***MD***

## SPELLING STRUGGLE

**I've written a simple spelling program for my children using AMOS. While it looks and works well there are two areas needing revision, and I'm having trouble understanding the manual on these points.**

**Firstly, I want to be able to detect which particular keyboard keys have been pressed, so that, for example, if an input should be in letters and the child presses numerical keys then the program will detect this and jump to a "You pressed the wrong keys" routine. And vice versa. (My youngest does have a tendency to type "1234" when prompted to spell horse and no doubt will type "horse" for "1234" when I expand the program to include arithmetic!)**

**Secondly, I have *DPaint* pictures that are in a 'Pics' directory on the program disk. They are loaded as required, from the disk, by lines such as 'Load IFF "Pics/Mainpic",1'. This necessitates a pause and disk access as the picture loads. I would like the pictures to be pre-loaded into memory so that they are instantly placed on the screen when needed.**

**N Jameson**
**Sleaford**
**Lincs**

Presumably you are already testing which keys have been pressed, otherwise you would not be able to decide whether a word had been spelt correctly or not. I assume you've used the Input statement to do this, and stored the result in a string variable, say SP$.

You could check each character of this variable to ensure that it was an alphabetic character, but a better solution would be to check each key as it is pressed. You can do this with the AMOS Inkey$ function. This returns the key that is being pressed at the moment as a string. If no key is being pressed, then the string is empty. So, you must set up a loop which waits until a key is pressed:

```
Repeat
K$=Inkey$
Until K$<>""
```

Any characters input with Inkey$ are not automatically printed on the screen, so you must do this yourself with something like "Print K$;". If you use the variable SP$ to hold the whole word that the child is typing, then you must initialise this to an empty string. Then, a further loop must be set up to input several values for K$. Each must be added to the end of SP$, until the child has finished typing the word. This can be checked for by waiting for a [Return] press (character code 13).

Finally, you need to include your check for non-alphabetic key presses. Because each character has a numerical equivalent, if K$ is less than 'a' or greater than 'z' you can be certain that it holds a non-alphabetic character. (In reality you have to check for upper as well as lower case letters). If K$ is non-alphabetic, then the error routine is called, K$ is ignored, and the loop continues. A simple version follows:

```
SP$=""
ANOTHER:
Repeat
K$=Inkey$
Until K$<>""
Print K$;
If(K$<>Chr$(13)) ↵
and((Upper$(K$)<"A") ↵
or(Upper$(K$)>"Z")) Then ↵
Gosub WRONG : Goto ANOTHER
If K$<>Chr$(13) Then ↵
SP$=SP$+K$ : Goto ANOTHER
Print
Print "Your word is:"
Print SP$
Stop
WRONG:
Print
Print "You pressed ↵
the wrong key"
Print SP$;
Return
```

The second problem is an easy one. When loading an IFF picture, it is possible to specify a screen number to which the picture is sent. If you have four different pictures, then you could load them all at once in the following manner:

```
Load Iff "Pics/Mainpic",0
Load Iff "Pics/Pic2",1
Load Iff "Pics/Pic3",2
Load Iff "Pics/Pic4",3
```

The screen to be displayed is chosen with the 'Screen To Front' command, followed by the number of the screen required. To cycle through each of the screens in turn, append the following:

```
Screen To Front 0
Wait Key
Screen To Front 1
Wait Key
Screen To Front 2
Wait Key
Screen To Front 3
```

(Note that the first picture is stored in screen 0, not screen 1). If you have a lot of screen that you want to pre-load, you may find yourself running into memory problems. In this case you will only be able to load a few at a time, with a necessary pause while the next lot of screens are loaded. ***CR***

## UPGRADING

**I own an original revision A Amiga 2000 and am considering, next year, upgrading to the new Workbench 2. Instead of changing my computer, is it possible to just change the motherboard to gain the enhanced chip set?**

**If so, where can I get it and roughly how much will it cost?**

**DW Powell**
**Lancing**

Upgrades for A500 owners will be available in the very near future. Commodore will also be releasing an upgrade for 2000/1500 owners soon after. The upgrades will be carried out by FMG, the Commodore repair centre.

Different upgrades will be on offer, depending on whether users want just the Workbench 2 upgrade or the enhanced chip set as well. An exact price has yet to be confirmed, but the full upgrade should be somewhere in the £150 region.

Alternatively, a number of third parties are already offering enhanced chip set, Kickstart 2 upgrades. You may want to go for one of these, but bear in mind that they aren't official.

Incidentally, as soon as the upgrade becomes available, *Amiga Shopper* will be offering it to all readers at a special discount price. ***CR***

## STAMP OF CLASS

**Among my many interests is the hobby of stamp collecting. A fellow collector has placed a database on disk which I would like to use. The database was written on an IBM compatible under *Quick Basic 4.5*.**

**If I sent you the source code, could you convert the program to run on my Amiga?**

**DR Cooper**
**Folkestone**
**Kent**

There are two parts to this database. The first is the program written in *Quick Basic*. This organises the database and controls the storage and retrieval of the information. The second part is the information itself: the details of the stamps.

Converting the program from the PC to the Amiga is certainly possible, but it is not something we would undertake in the Answers pages. For one thing, the code would be far too long to print; for another, it would be of no interest to our other readers. If you want this program converting, then I'm afraid you are going to have to pay somebody to do it.

On the other hand, the information itself is the important bit of the database. It would make far more sense to buy a simple Amiga database program (such as *Prodata*, which costs £79.95 from Arnor ☎ 0733 68909) and enter the data into it directly. ***CR***

## CLIPPING ART

**I have *DPaint 2* and *Kindwords*. Could you please tell me how, if I design a letterhead on *DPaint 2*, do I transfer it to *Kindwords* for use with my letters.**

**Also, I know I can obtain PD disks which are full of fonts and clip-art but how do I use these with my software?**

**A Anderson**
**Billingham**
**Cleveland**

No problem – first create your letterhead on *DPaint 2* and then enclose your creation in a brush. Go to the top menu and save the brush to a blank formatted disk. Now exit *DPaint 2* and enter *Kindwords*, select 'Insert' from the top left menu bar and insert your formatted disk with your letterhead on it.

From the directory, select the name of your brush and "Hey presto", your letterhead should appear. One thing to bear in mind is that *Kindwords* can only cope with 16 colours, so create your letterhead with 16 colours in *DPaint*.

The same is true for any clip-art which you decide to purchase from the public domain. Fonts have to be copied across to your system disk, using the Shell. In this case, there are two parts to be copied – the general font information, called 'fontname.font', and the files for the different sizes of the font, simply as a series of numbers. These latter files must be copied into a sub-directory within the fonts directory, named after the font name. ***MD***

# Beginners start here

**On the next three pages, deputy editor Cliff Ramshaw answers a number of questions frequently asked by those new to the Amiga**

Having taken your brand new Amiga out of its box and plugged it in, you may well be more than a little bewildered at what confronts you. Although the machine is on the whole easy to use, there are a host of concepts to learn before you can make full use of it. Here we aim to outline some of these fundamentals to save you time and effort in coming to grips with your new machine; but always remember that the best way to learn about the Amiga is to experiment.

## WHAT IS A COMPUTER?

A computer is a machine which will follow a set of instructions. It cannot think, but merely does what it is told. The instructions which it follows can come from a number of sources: instructions held internally, from the makers of the computer; instructions from a third-party program which is loaded in from a floppy disk; instructions from you, the user, typed in at the keyboard. The results, known collectively as 'output', are sent either to the screen, to the printer (if you have one) or to the disk in the floppy disk drive.

## HOW DOES IT WORK?

Well, without getting carried away... at the heart of the machine is something called the Central Processing Unit (CPU). This is the bit which interprets the instructions sent to it (in a very simple language called 'machine code') and does what they tell it to. The instructions are held in the computer's memory.

## MEMORY

The classic analogy is that of comparing memory to matchboxes. Imagine an incredibly long row of matchboxes, each numbered and each with something inside it. The contents of a memory location can be found or changed by referring to the number of the relevant matchbox, opening it and taking a look (or putting something else in). In practice, all that these matchboxes contain is numbers, but these numbers can be understood by the computer as words, pictures or sound (or indeed they can be kept as numbers). There are two main types of memory: RAM and ROM. RAM (standing for Random Access Memory) can be altered at any time by the computer. Once the power is switched off, the contents of RAM are 'forgotten'. ROM (Read Only Memory), on the other hand, is never changed, even when the power is switched off. It contains the basics of the operating system – the set of instructions which determine the overall behaviour of the machine at all times.

Memory is measured in units known as bytes. In every byte a number between 0 and 255 can be held. To hold bigger numbers, or more complex items of information, bytes are joined together into larger units. More conveniently, memory is spoken of in terms of kilobytes (K) or Megabytes (Mb). A kilobyte is 1,024 bytes; a megabyte is 1,024 kilobytes or 1,048,576 bytes. The reason that they are not nice round 1,000s and 1,000,000 lies in the organisation of bytes according to the rules of binary arithmetic, but that's not important right now...

## FAT AGNUS

Possibly the most common question we get asked here at *Amiga Shopper* is about the Fat Agnus chip. Agnus is one of several custom chips inside the Amiga dedicated to producing graphics and sound. Whereas the Amiga's central processor can access all of the memory in the machine, the Agnus chip is limited to a much smaller portion, known as Chip RAM (since it can be accessed by the custom chips).

It is here that graphics information must be stored. Anything you see on the screen has an equivalent form inside the Amiga's memory, in Chip RAM, and it is Agnus (amongst others) that does the job of converting this information into the form of a picture.

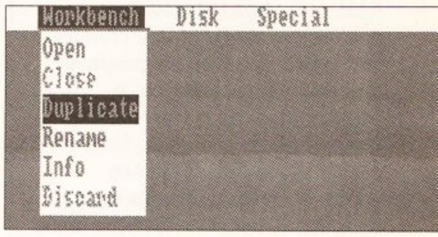
The rest of the Amiga's RAM (as opposed to ROM) is termed Fast RAM. Whenever Agnus accesses the Chip RAM, it prevents the Amiga's central processor from doing so at the same time. Because much of what a processor does involves accessing memory, this has a tendency to slow the processor down. Memory which is not Chip RAM, on the other hand, can be accessed by the processor whenever it likes, without a speed penalty. And that's why it's called Fast RAM.

Now, the more Chip RAM, the better, since it means that more complex graphics can be on screen at once, bigger and smoother animations can be performed and more impressive sound samples used. The early Agnus chips could access 512K of Chip RAM, or half of a megabyte (the amount of memory that comes with an Amiga 500). This chip is numbered 8361, and was present on A1000s and early A2000 machines.

After that came the Fat Agnus, with a shape more like that of a square and a couple of extra features. This is the one in the majority of Amigas. Its part number is 8371 (or 8370 for the American version). Like its predecessor, it can access 0.5Mb of Chip RAM.

In the last year or so, Amigas have been released with an even newer Agnus chip. This is known as the Fatter Agnus, and it can recognise 1Mb of Chip RAM. It has part number 8372a. An even newer version exists, accessing 2Mb of Chip RAM, but this is only available for the new Amiga 3000.

Hope that's cleared things up.




**A close-up of the Workbench menu; and someone's about to try duplicating a disk**

## WHAT ABOUT DISKS?

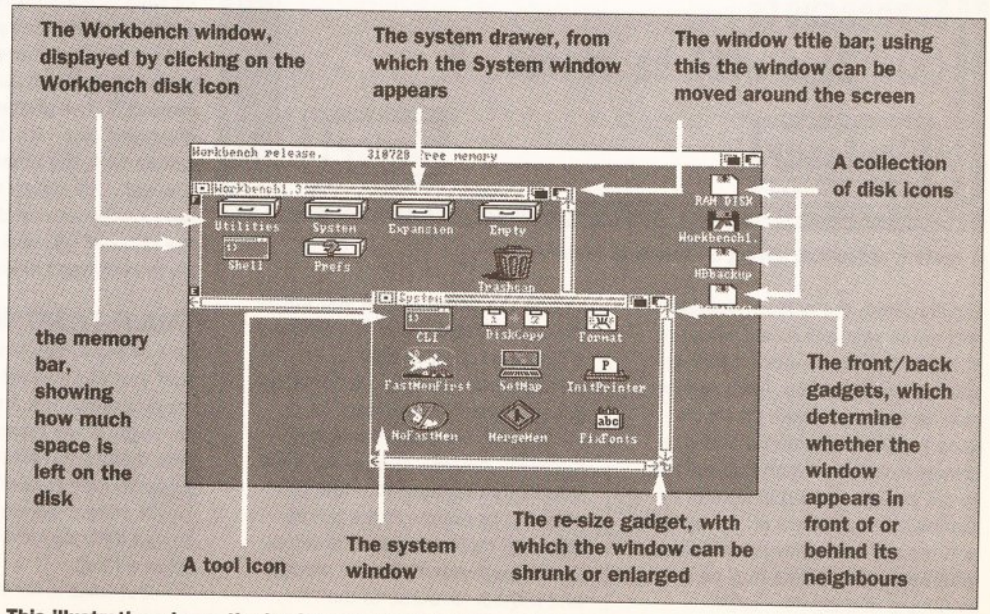
Disks can be thought of as removable memory. The difference is that the processor cannot directly access anything held on a disk. Before it can get its hands on it, the contents of the disk must be 'loaded' into the computer's RAM.

Information is stored on a disk in the form of files. A file is simply a grouping of related infomation with a name. The information is referenced by using the file name.

## INFORMATION

Two types of information may be held in memory and on disks. The first type is the information which makes up a program. A program is a collection of instructions for the computer to follow. As well as the operating system, which is nearly always present, the Amiga may have several programs 'running' inside its

continued on page 70




**This illustration shows the basic components of the Amiga screen**

continued from page 69

memory at any one time. These can instruct it do such things as draw pictures or operate a spreadsheet.

The second type of information is known as 'data'. This is also held in RAM, but instead of providing instructions for the CPU, it provides information on which the programs may operate. For instance, a program which adds two numbers together needs some data before it can be of any use. These two numbers are the program's input data. The result of the addition is the output data. Another example is given by the *Deluxe Paint* package. This is a program. Any key presses or mouse movements you make are input data for the program; the picture that is gradually drawn is the output data. Of course, this picture may be saved on to a disk at any time, and loaded back at a future date. In such a case, the picture has now become input data for the program. As you can see, the distinction between input and output data can become somewhat blurred.

## WIMP

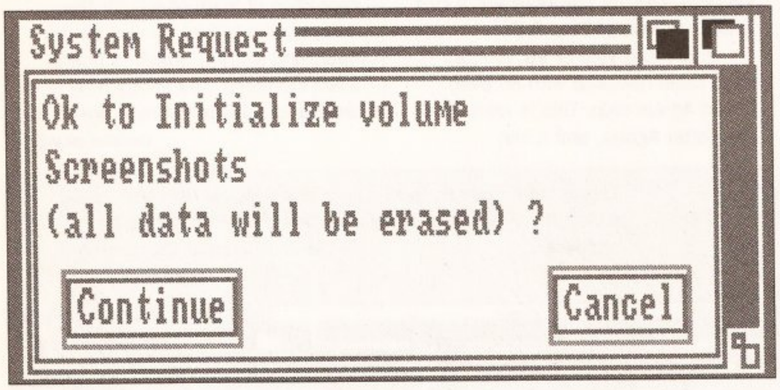
In days of yore, people used to control computers exclusively by keyboards. Because of the relatively new WIMP (windows, icons, menus, pointer) system, many tasks can be greatly speeded up and performed in a more intuitive manner (hence the name of the part of the Amiga's operating system that deals with this: Intuition).

All disks, programs and related collections of data are displayed on the screen as small pictures, known as icons. To prevent things getting too cluttered, the screen is divided into small sections called windows, in which the icons relevant to that window are displayed. Each window may be open or closed (in which case it reverts to either a disk or a drawer icon), moved around relative to the screen, moved in front of or behind other windows on the screen, and resized to display more or less information. All of this may be done by means of gadgets – small graphical symbols around each window's borders that represent these functions. Windows may be nested hierarchically inside each other by means of drawer icons. Whenever a drawer icon is opened, a new window is drawn with its own icons within it.

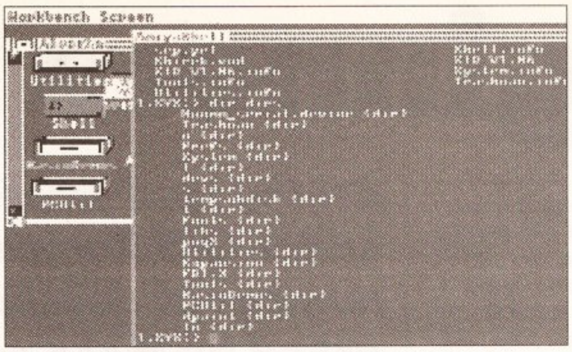
Icons are accessed with the screen pointer, which is moved across the screen by moving the mouse across the desk. Once the pointer is above an icon, that icon can be accessed by pressing the left mouse button twice in quick succession (a process termed 'double-clicking'). The effects of this will vary depending on the icon in question: in the case of a disk or drawer icon, a window will be opened; in the case of a program (or 'tool'), the program will be loaded from disk into RAM and run (in other words, the Amiga will start to follow the instructions contained in the program); clicking on a data icon (or 'project') will result in the data's corresponding program or tool being loaded from disk along with the data on which it will begin to operate. The pointer is also used to control a window's gadgets, but in this case the left mouse button need only be pressed once.

A special type of icon that you should be aware of is the 'trashcan' icon. Other icons may be moved inside here by placing the pointer above them, pressing and keeping pressed the left-hand mouse button, and moving the pointer and icon until they are above the trashcan. Releasing the mouse button results in the icon being dumped in the trashcan. The contents of the trashcan can be revealed by clicking on it in the same way as you would click on a drawer icon. The difference is that the trashcan may be emptied, in which case all of its contents are gone for good. Handle with care.

Menus are another innovation of the WIMP system. Menus are a list of options displayed in a text box, selected by means of the pointer. In this way, more complex operations can be performed with the mouse and without recourse to the keyboard. When first switched on




A system requester, giving a chance to reconsider




The Shell provides a command-line interface to the Amiga, similar to that used on IBM PC-compatibles

and with Workbench loaded in RAM (Workbench is the part of the Amiga's operating system which is not held permanently in ROM), a basic set of menus are available which enable you to do such useful things as copy disks and so forth. Most programs have their own custom set of menus, relating to the particular things that the program is used for.

Menus are displayed at the top of the screen. Pressing the right-hand mouse button (and keeping it pressed) reveals the title of each available menu in the white bar at the top. Moving the pointer up to one of these titles (with the mouse button still pressed) will cause the Amiga to display the list of options in a box beneath the title. As the pointer is moved down this box, each of the options will be highlighted in turn. Releasing the right-hand mouse button with one of the options highlighted will result in that option being executed.

Although not mentioned in the WIMP acronym, another aspect of the system is the 'requester'. A requester is a box that appears on the screen during an operation – usually a dangerous one such as erasing a disk – displaying a small amount of text and asking the user for what is normally a yes or no reply. In the case of erasing a disk, the text will say 'Ok to initialise volume [name of disk] (all data will be erased)?'. Two gadgets are displayed, one with 'Continue' written in it, the other displaying 'Cancel'. The option you want is selected by moving the pointer over the relevant box and pressing once on the left-hand mouse button.

## MULTI-TASKING

One of the Amiga's special features that you've no doubt heard about is multi-tasking. The Amiga is unique amongst home computers in having this feature; in fact it's not until you begin to look at computers very much more expensive than the Amiga that you will normally find such a thing.

But what is it? Basically, multi-tasking is the ability to run more than one program at the same time. This may not seem like a big deal: after all, there is only one of you controlling the thing, and you can't control more than one program at a time. There are advantages to multi-tasking, though.

At its simplest, multi-tasking allows several programs to be running in memory, waiting for you, the user, to use them. You can be working on one of these programs, a word processor for instance, and suddenly realise that you need to do some mathematics so that you can put the answers to some calculations in your document. Ordinarily, you would have to quit out of the word processor, load up the calculator program (OK, I'm assuming you don't have a pocket calculator, but you get the idea), do your sums and write down the answers, then quit out of the calculator and load your word processor again, load in your document, find where you were in it and type in the answers from your piece of paper. Quite a hassle. With the Amiga, the calculator could have been waiting in the background all along, eager to help you out. A couple of mouse clicks brings it into action, and you can get your results there and then. Again, a couple of mouse clicks brings back the word processor, exactly where you left it. With more sophisticated software, you will often find that the data can be directly transferred from one program to another, saving you even more work.

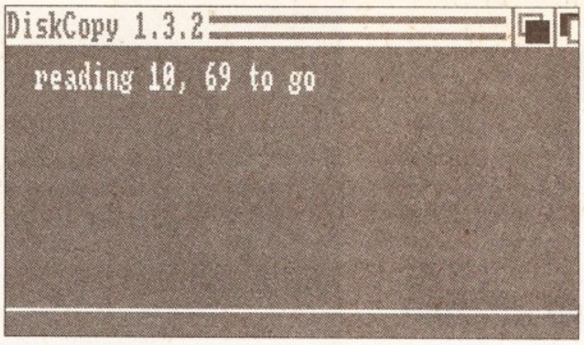
Another advantage of multi-tasking is in running programs which require little or no user input. For instance, you could set a landscape generator going, and meanwhile get on with adding up your family accounts or whatever.

Theoretically, there is no limit to the number of programs you can have running at once. In practice, the number is limited by your available memory: each program requires its share. Also, the more programs that are running, the slower the machine becomes overall. This is because of the way multi-tasking works.

The central processor of a machine like the Amiga can only do one thing at a time. A part of the Amiga's operating system known as Exec (for Executive) decides what the processor will do next. It looks at all of the programs running, and gives each of them in turn a little slice of the processor's time. This swapping from one program to another

happens so fast that all of the programs seems to be running at once. It's all very clever, especially when you consider that Exec itself is just one amongst the many programs running in this way.

To be fair, there are a couple of disadvantages to multi-tasking. The first is that it is often unnecessary. It *can* be useful, but ore often than not you will want to use your computer for one job at a time. But because multi-tasking is such a complex business, it means that the Amiga's operating system is much bigger and complex than it might otherwise be. And this means that it is more likely to fall over occasionally, which leads us on to the second disadvantage: crashing. On mini and mainframe computers, which as well as being multi-tasking also support several users, each program is well protected from all of the others running at the same time. That way, if one program crashes, the rest can go on unharmed. With the Amiga, though, this is not the case. It is possible for a rogue program to effect any others that may be present. In general, if one program crashes on the Amiga, they all crash and the machine has to be re-booted. If you've been entering your accounts for the last hour and a half when your Mandelbrot program decides to crash, all of your typing will be lost. This is one good argument for saving your work to disk at regular intervals.




**The display when duplicating a disk. A disk is divided up into 80 cylinders, most of which have yet to be copied**

## COPYING DISKS

The first thing that you should do after unpacking your new Amiga is to make copies of your Workbench and Extras disks. This advice also applies to any other disks that you get – although most games and some serious software won't allow you to do this in the interests of preventing piracy.

Copying disks is a good idea because disks have a tendency to get corrupted and lose whatever is stored on them from time to time. Always use the backup copies that you have made, and store the originals in a safe place against the eventuality that your backups fail.

Copying disks on the Amiga is easy, although if you only have one disk drive it can take a little bit of time. In the following description, I'll assume that you only have one floppy disk drive.

First, boot the machine up as normal (this simply means 'switch it on and put in the Workbench disk when you are told to do so'). Then insert the disk that you want to copy. Move the pointer over the disk's icon, and click on it once with the left-hand mouse button. The icon should change colour. Now, using the right-hand mouse button, go to the Workbench menu at the top of the screen and select the Duplicate option. A requester will appear asking you to replace the Workbench disk. Do this. There is no need to click on the 'Retry' box (although you can if you really want): the Amiga will realise when you have inserted the correct disk.

You will then be asked to insert the disk that you want to copy. Having done this, you will be asked to insert the 'SOURCE' disk. Actually, this is exactly the same as the disk that you want to copy. If you are sure you have inserted the right one, click on the Continue gadget in the requester with the left-hand mouse button. The Amiga will start reading the information from the disk, keeping you informed as to how much of the reading it has done and how far it still has to go.

After a time, you will be asked to insert the 'TO' disk. Insert a spare disk, but be sure that there is nothing on it which you want to keep, since all of its original contents will be lost. Once this disk is inserted, click on the Continue gadget. The Amiga will start writing the new information to the disk.

Once this is done, you will be asked to insert the SOURCE disk again. This process of swapping disks will continue until the whole of the original disk has been read and susbequently written to the new disk. After this, the new disk will be named as 'copy of [name of original]'.

It is usually a good idea to rename the disk as something more sensible. To do this, select the disk by clicking once on its icon with the left-hand mouse button, then go to the Workbench menu and select the Rename option. Delete the text of the old name in the box provided, and then type in the name by which you want to refer to the disk. When you are done, press the [Return] key and the whole process is finished.

## THE SHELL

Although most things that would ordinarily require a keyboard can be done on the Amiga using the mouse and WIMP system, there are nevertheless hidden depths which can only be accessed by means of good old typing. These functions are performed by using the Shell, which has an icon that looks like a miniature window.

Older versions of Workbench (version 1.2 and below) don't have a Shell. Instead, they have a CLI (standing for Command Line Interface), which works in pretty much the same way but lacks some of the Shell's more advanced features and is therefore a bit more awkward to use. The CLI's icon looks just like that of the Shell, and may be found in the System drawer of the Workbench disk. If it is not visible, the Preferences icon must be clicked on (inside the Preferences drawer). Once loaded, Preferences will display a screen-full of options, one of which will refer to the CLI. Click on this, and next time you look in the System drawer the CLI will be there, ready and waiting.

Clicking twice on the Shell or CLI icon will open a text window on the screen. It is generally a good idea to enlarge this window so that it takes up all of the screen, since a lot of text can be generated when you are working here.

A full description of what can be done in the Shell is really beyond the scope of this section, but we'll give you a quick taster. One of the most used commands is the 'directory' command, which gives a list of files (programs and collections of data) on a disk. When the Shell opens, you are presented with a 'prompt' inside the window. At this prompt, type the word 'dir' and press the [Return] key.

The disk will whirr, and you will be given a list of all of the files on the disk. You may be surprised to find that there are a lot more files than there are icons when viewed from an ordinary window. For a file to be shown as an icon, it must have a corresponding file with the same name but followed by the characters '.info'. This second file contains information about the icon, such as what it looks like, what kind of file it represents, and where on the screen it should be displayed.

Some filenames have the characters '(dir)' after them. This is not part of the name, but an explanation that the file in question is not a file at all but a directory. A directory is exactly the same as a Workbench drawer. Things are held within it. For example, on the Workbench disk there is a directory called 'c' (standing for 'commands'). This is not visible except from the Shell, because there is no corresponding 'c.info' file and therefore no icon. To find out what is in this directory, type 'dir c' and press [Return]. What is displayed is a list of files. In this case, each of them is a program which you can run by typing its name in at the Shell prompt. If you look closely, you will find a command called 'dir', which is the one you have been using to look at the Workbench disk's contents. For more information about the Shell, check out Mark Smiddy's monthly AmigaDOS column. AS

## IN NEXT MONTH'S ISSUE...

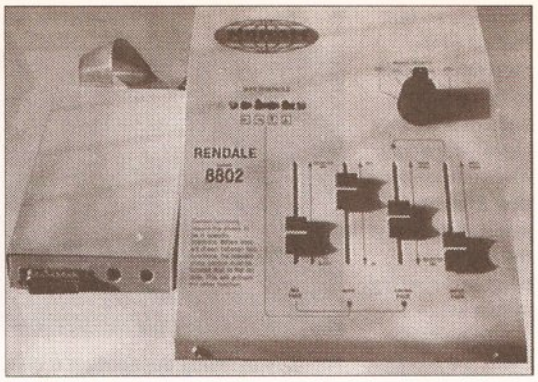
**Every month in *Amiga Shopper* we print 16 pages of Amiga Answers – answers for everyone from beginners to experts. If you have a question, fill in the form on page 42 and pop it in the post to us.**

**Amongst the questions we intend to answer in next month's issue are the following:**

- **"What's the difference between the various flicker fixers?"**
- **"I was about to buy myself an Amiga 500 but, having read about the new A500 Plus, I'm puzzled about which one to get. Can you tell me about the new model's compatibility with the old?"**
- **"I have a problem with sequential files in AMOS. I save a set of arrays as a file using a FOR/NEXT loop, but cannot load the information back in. Can you help?"**
- **"I have an XT Bridgeboard and hard disk. Can you tell me how to speed it up and make it autoboot?"**
- **"My computer has no Fast RAM, and this seems to affect some programs. Is there a cheap and simple solution?"**
- **"I program using the *Kuma-Seka* assembler. It works well, but when I try and run my resulting code I get a system message saying that the file is not an object module. Can you tell me what I'm doing wrong?"**
- **"When I connect my printer to my Amiga, the disk drive will not work, although both are fine independantly. What's going on?"**

# On a screen near you...

## Investigating some show-stopping accessories for revamping your video




The Rendale Super 8802 genlock – it looks good, but just how well does it perform?



**"This month I'm reviewing some hardware and software promising to make life easier. Let's jump straight in and see."**
**Gary Whiteley**

### RENDALE SUPER 8802

Going by the price and the S-VHS features, I reckon that Rendale's new genlock is aimed at the semi-professional/professional market.

Surprisingly the Rendale Super 8802 arrives as two boxes! Along with a modified 8802 genlock you get a larger, wedge-shaped box with knobs on. This is the mix/fade/wipe controller and it connects directly to the genlock unit via a length of cable.

### MAKING CONNECTIONS

I'm afraid I was soon having problems. The integral RGB ribbon cable from the 8802 is *very* short, causing the problem of how exactly to sit the genlock safely on the desk – especially if you have a 1500 or 2000 and a standard size desk. Furthermore if you were thinking of getting a 3000 Tower you would have to prop the 8802 up if you wanted to connect it. So, first off, *can we have a longer RGB cable please?!*

The other connections are straightforward. Connect a video input to the mixer unit (either S-VHS or PAL composite), connect the video output, hook the RGB back out to the Amiga monitor, connect the genlock and plug in the power. Switch on your Amiga and you're ready.

Note that while both S-VHS and composite inputs and outputs are available you can only have one input in use at a time (selected by using a slider switch) although both S-VHS and composite outputs can be used simultaneously.

Turning to the separate mixer/fader/wipe unit let's take a look at the knobs and switches on-board. There are four sliders marked (from left to right) Mix Fade, Wipe, Cross Fade and Input Fade. There are also four small push switches which are used to select the current wipe pattern. Last but not least, there is a rotary switch for selecting the key mode (Foreground mode 1, Background, Amiga Only, External Video or Foreground 2). With all these controls you'll understand that there are many permutations which can be achieved by various combinations of sliders and switches.

There are 16 wipes available, all of them of the straight-edged, vertical or horizontal variety, and the combinations of switching each one result in a different wipe being produced – ranging from plain up, down, left or right to corner boxes and finally square to centre when all four basic shapes are combined.

During fading, the position of one slider may not only affect the outcome of another but give rise to combinations of Amiga/Video which could be either wipes, keys or keywipes, Amiga only or Video only faded to or from black.

Here's where I have another small gripe – the good-looking crinkle finish of the case interferes with the sliders and makes smooth fading harder than necessary.

What about the quality? OK, in general the quality is good, but I was disappointed to see ghostly wipe edges (appearing as dark and light lines) when they really shouldn't have been there. I was told that this could be corrected, but the unit would have to go back and be disassembled to make the adjustments.

There was some digital break up on the edges of wipes left mid-screen. Otherwise keying is good, and all the controls are simple to use, once you have a grasp of their functions, though the selector switch has several positions which aren't marked, but still select signal positions.

### TO SUM IT ALL UP

Overall I wish I felt better about this genlock. Sure, it works well, but why the two boxes? Presumably for upgrading existing 8802 owners. The connecting leads are so short that everything may as well all be in the same case – there certainly seems to be room! The build quality appears high and the documentation is generally good, though there is a lack of detail about all the functions of the control unit. I also feel that the range of wipes will only have limited use, especially without any positioning control. So I reckon there's still room for improvement.

If you have an 8802 genlock and wish to take the upgrade path to the Super 8802 you can do this for £420. You'll also have to return your 8802 to Marcam for modification.

### CHECKOUT
### RENDALE SUPER 8802

**Ease of Use** ●●●○○
Awkward cabling, otherwise just needs practice.

**Features** ●●●●○
Plenty of built-in choice.

**Documentation** ●●●●○
A little vague in places, otherwise good.

**Price Value** ●●●○○
Comparatively overpriced.

**Overall rating** ●●●○○

Not yet the genlock that it could be.

### SHOPPING LIST

**Rendale Super 8802......... £599.99**
**by Marcam Ltd**
**62 Tenter Road**
**Moulton Park Business Centre**
**Northampton NN3 1AX**
**☎ 0602 790466**

### THE SECRET OF DIGIVIEW REVEALED

Here's something I came across a little while ago when I wanted to convert a 24-bit image to something viewable on an ordinary Amiga. Out of curiosity I fired up my *DigiView Gold* (4.0) software, then attempted to load the 24-bit file into it, like I would any other. To my surprise there wasn't the expected mystery tour of Guruville – the picture appeared to be loading! So I hung about to see what would appear.

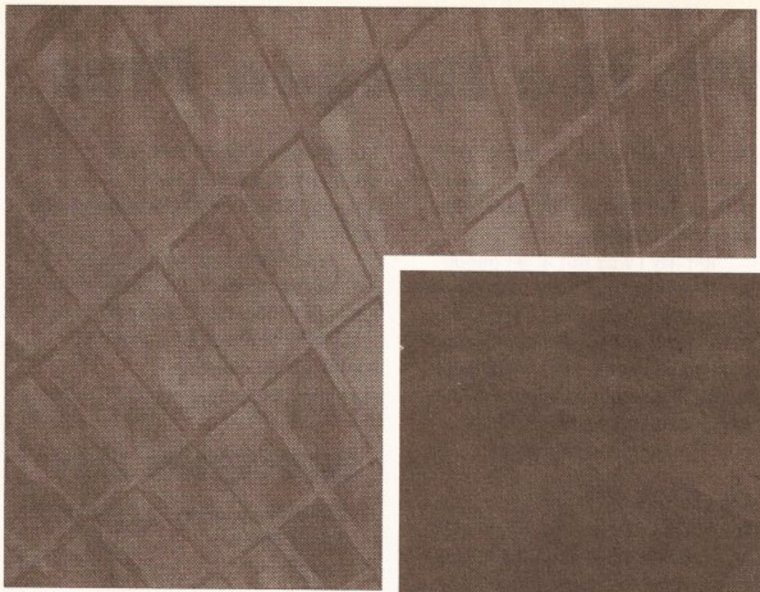
After a few minutes I was presented with a fine-looking lo-res HAM version of my original 24-bit file (which was 542874 bytes large). So, in true pioneering spirit, I tried again, using different resolutions. They worked! And this with a file which had caused ASDG's *Art Department Pro* to curl up and complain of lack of memory on a 3Mb equipped Amiga 2000!

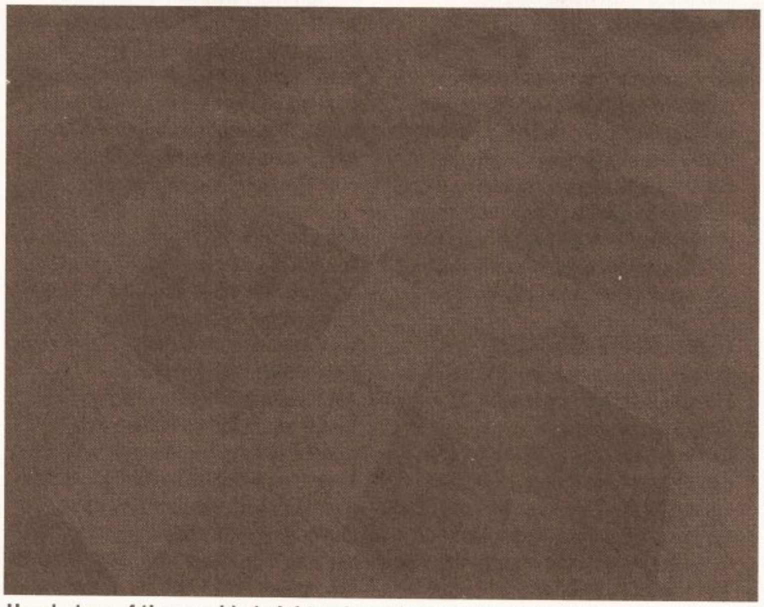
Now, I haven't heard of this aspect of *DigiView* before – and there appears to be nothing in the documentation. So you're probably reading a true *Amiga Shopper* exclusive here.

As to why it works I can only speculate that there must be 24-bit handling present in the code somewhere (I'm no programmer!). Perhaps something to do with the 21-bit 4096+ option which *DigiView* has? Any other theories appreciated.

Incidentally, for those of you keen to see if this idea might work with *DigiPaint 3* or *Deluxe Paint 4*, I checked. It doesn't. Nor with older DigiView software. Sorry.

But if you already have *DigiView Gold* (or alternatively version 4) and think that you'd like to convert some 24-bit files to plain old regular IFF formats then this might be the cheap and cheerful entry you were waiting for.





Here's two of the provided eight colour hi-res overscan backgrounds. You could combine them with music for some spectacular effects

## SHOWMAKER GOLD DISK

I have to admit it – I'd had *ShowMaker* lying around for a while, not knowing what to make of it. Feeling a nagging sense of guilt I would dig it out once in a while, load it on to the hard disk, make a short presentation – then give up. It wasn't that it was particularly difficult to use or that the results weren't interesting. On the contrary – it was just that I was finding it hard to be impressed by the overall effect of *Showmaker*.

Then I started seeing reviews in other magazines – almost rave reviews in some cases. Was I missing something here? I tried again. Here are my conclusions.

## CUNNING CAPABILITIES

*Showmaker* is being touted as the first package to turn your Amiga into a complete desktop video solution, with facilities which include presentation editing, titling, wipes, sound-tracking and effects, and control for external devices such as VCR's, laser discs, the Video Toaster, Digital Creation's Supergen 2000S genlock and MIDI music equipment.

The box contains four disks, a well written manual and an eye-catching demo video. As well as the program itself you get a disk of fonts (containing AvantGarde, Dom Casual, Futura, Stymie, Times, Triumvirate and TrumpMedieval) and two disks of reasonable quality 8 colour, hi-res overscan presentation backgrounds.

## FIRST IMPRESSIONS

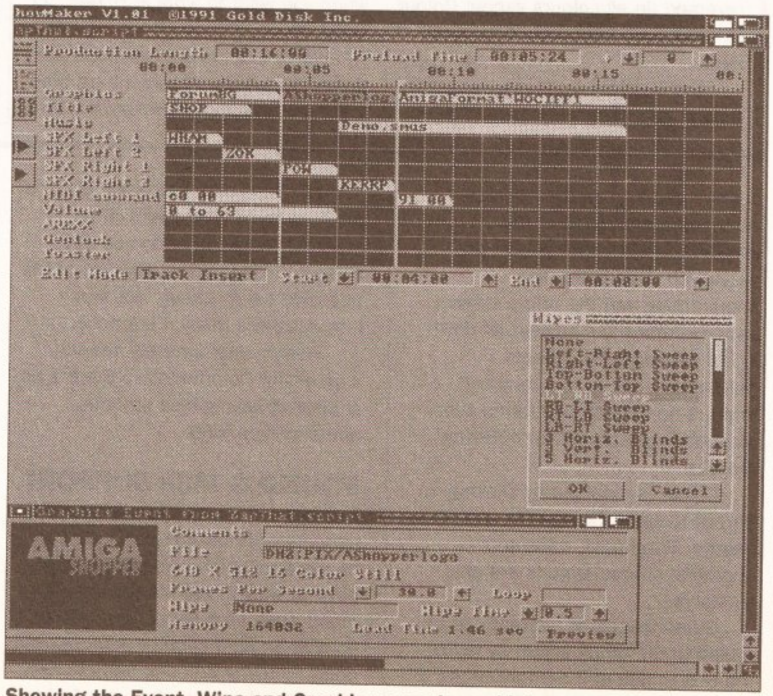
Following the supplied tutorial was easy. And at this slide-show-with-music level, the program works fine, and can be rather impressive. Select your track (from graphics, titles, sound effects, MIDI, external devices and so on), drag out an event, then select the item you wish to add to the production.

It's great to be able to synchronise sound and music with artwork and have the whole lot pumping out from your Amiga on the desk right there in front of you.

But I've a feeling that this simple stuff isn't the true purpose of *Showmaker*. In fact, Desktop Video seems the wrong term here – as you'd need a *big* desk to take all the hardware *Showmaker* controls. *Showmaker* is really the manager and the conductor, for the hardware it controls, combining the elements of a video production – pictures, music, editing, graphics, sound effects etc – into a whole. Traditionally this process would involve producing all the component elements individually, then integrating them via a video editing suite to produce a final master tape.

With *Showmaker* the origination process remains the same, but the editing can now be brought under software control. By communicating with suitably equipped hardware (via either MIDI or serial connectors, depending on the type of hardware) *Showmaker* can automate the edit, controlling many of the functions which would normally have been under manual control. This can of course be of enormous benefit where accurate timings are required.

Unfortunately this all takes money. Video equipment with serial connectors isn't exactly your average domestic kit. Nor are MIDI instruments or laserdisc players. And you'll also require a multiple serial port if you wish to control more than one external device.




Showing the Event, Wipe and Graphic requesters which are used in the construction of *Showmaker* presentations

## SLOWING DOWN

As I've said, simple scripts are easy, but once you start getting into more complex situations with lots of tracks and events then editing can start to get both confusing and a little slow, as the screen refresh leaves much to be desired and the drag 'handles' on the event boxes can be awkward to get hold of at times.

For such scripts it would be nice to be able to edit in a standard ASCII format – making the process easier if you are doing repetitive or timing-critical work. For instance, I set up a series of control events to run through all the Video Toaster's digital effects – 4 banks of 32 effects each, which mainly involved changing the number of the effect in each segment. It would have been much easier to do this in a word processor than it was with the *Showmaker* system, as each change requires at least three mouse clicks and three moves to do, as well as wading through menus and moving the mouse back and forth. I would have thought that this situation would hamper the creative process in the long run, especially in a business where time really is money.

The irony here is that *Showmaker* actually lets you save the script as a 'Cue Sheet', which is an ordered list of the entire script in ASCII format, but if you edit it in a word processor and then load it, *Showmaker* throws it right back out!

Lastly, it's not possible to run a *Showmaker* presentation directly from its icon – you have to start it from the program. Not only does this require an unnecessary use of memory, it also makes stand-alone presentations an impossibility.

## GETTING THE PICTURE

*Showmaker* handles animations and IFF pictures as it handles all other tracks – click and drag, then load from the requester. There are 36 wipe effects which can be added to improve the transition from one image to the next. Some of them are pretty neat, others pretty boring. One problem I found here was that although you can set the wipe time (the default is 0.5 seconds) it doesn't seem to make any difference with certain transitions and if the display time for the picture is less than the wipe needs to complete then Poof!, next image, wherever the

current wipe is on screen.

Mixing different resolutions seemed to get *Showmaker* confused – going to black in between the differing pictures (though *Scala* has a similar problem, in some cases). If you were to stick to a single resolution, which would be more likely anyway, things work fine.

Whilst the main screen is the most likely one you'll use to construct your presentation it's also possible to work in two other formats – Story Board and Cue Sheet, which either show you small representations of your images and associated information or a list of times, events and information.

The only evidence of support for 24-bit graphics is for those images produced by the Video Toaster, so Harlequin, VD2001 and other 24-bit users will have to dump to some form of video recorder first.

## HOLY PRELOAD, BATMAN

*Showmaker* prides itself on its built-in Dynamic Preload function, which will supposedly evaluate the resources of the host computer and then optimise the loading, unloading and playback process for the best use of memory. The bad news is that it doesn't seem to work too well. *Showmaker* seemed confused when I made alterations to a script – the load times would go up and down for no apparent reason. And even after several runs at an unchanged script it still hadn't made up its mind about the best way to handle the job. Not that this stopped it playing back though.

## THE BIGGEST LET DOWN

On the whole I was singularly unimpressed by *Showmaker*'s crude title effects and the way you are required to put them together – resulting in an almost blind method of working. All the attributes of the text are set up in a requester box, but you cannot see the effects of what you are doing until the presentation is either played or previewed. This is a great shortcoming and the titling system soon becomes the biggest let-down in the package. The effects themselves are quite basic, and there is no control over items such as shadow placement or outlining the size.

Colour is selected by clicking on arrows to cycle through the available palette. Fixed bold, italic and underline characteristics are also available.

Some degree of interest can be added to the titling sytem by telling the text to use one or more of the 17 moves available – for instance scrolling or sliding in, but on my A2000 these didn't look too good at all. They were slow and sickly, creeping jerkily up or across the screen. Changing the duration of the title didn't help either. Not much interest there really, I suppose.

*Showmaker* currently has no support for Colorfonts, so there's no chance of having nice smooth, antialias-type fonts.

## SOUND & MIDI SUPPORT

Perhaps one of the more interesting aspects of *Showmaker* is that it can be used to synchronise sound with picture. Maybe you need a special effect such as a creaking sound to go with an animation of a spooky old door. By using a sound sample and one of the four (one for each Amiga sound channel) SFX (sound effects) tracks this is a simple matter. Or how about some creepy music as well? *Showmaker* can play MIDI music files, so if you have the right MIDI equipment you can play music on external instruments such as MIDI synthesisers and drum machines and have it in tight sync with the pictures. SMUS music and 8SVX or Raw samples can also be used. There is separate control for MIDI events, such as note on/off, and, most interestingly, a Volume track, where fade ups and downs and specific volume changes can be made.

## WOT, NO SMPTE?

Well, sort of. SMPTE, for those who don't know, is a timecoding standard used for synchronising audio and

## LATE NEWS

**Gold Disk have recently been advertising two new programs in the American press. The first, *MediaShow* ($130), appears to be a version of *ShowMaker* for the A500, whilst the other, *VideoDirector* ($199.95), is aimed at controlling certain VCRs or camcorders (including non-professional models) to enable video editing to be carried out under Amiga control. More on these as news comes in...**

# Rocking with the Rocgen Plus

Hot on the heels of the RG300C, Rocgen's first genlock, comes the slightly larger (9in x 6in x 1.5ins) and more expensive R310CP (Rocgen Plus).

The new device has more connections and more controls. RGB pass through has been added (a definite plus), as well as a second rotary fader. The Input video can now be looped out again, providing extra monitoring capabilities and there's also a Key Video input and, as with the previous model, there's a 12V DC input for external power.

## CREATING LINKS

Connection, as before, is easy. The integral RGB cable goes to the Amiga RGB port, video from camera/VCR/etc to Video In, combined video (Input + Amiga) comes from Video Out. You can also connect the Video Thru if you require it. Switch everything on, run the video and you're in business.

## ROCGEN ON TEST

Although I had no documentation supplied with the review model it was soon apparent how the controls worked...

The two rotary knobs (marked Amiga and Video) are used to set the mix of graphics and video, from full Amiga signal to full video, with intermediate mixing determined by the position of the knob. If both knobs are turned full left the keying is 'normal' (ie on Colour 0 – the 'background' colour) and the key is reversed (ie all colours except Colour 0) when both knobs are turned full right.

The controls work very smoothly though you'll probably have to get a friend to help you if you have to do something complicated, as operating the Rocgen Plus could require the use of both hands.

Initially I was not at all happy with the RG310CP. The output was fairly mushy, with colour appearing bleached-out, the reds blurred and noticeable jitter on the video image. It was also impossible to fade a full Amiga screen up to completely obscure the video signal.

## GETTING SET UP

There are internal adjustments which an experienced (and cautious!) user could make to correct these problems and, through trial and error, I did adjust the unit to run satisfactorily. However the point is that these settings were made (presumably at the factory) and the adjustment points sealed up. So the average buyer would expect the genlock to work correctly direct from the box. The seals were still intact on the review copy I had, so previous tampering was not the problem.

Unlike many other genlocks (though not its predecessor) it seems that the Rocgen Plus requires a continuous video feed in order for the connected Amiga to function. This is because the video signal is used to lock the Amiga's own clock to that of the genlock.

I noticed that if no video was provided then half the information from any interlaced Amiga screen went missing, resulting in an image where every other horizontal line had disappeared. Not particularly useful when you want to work in Hi-Res, for instance.

When it came to breaking down the genlock set-up I had a hard time disconnecting the phono connectors from the genlock. In fact, the connections were so tight that I actually broke one of my trusty phono leads...

Which cues me for my usual dig – *why phono connectors*? Leave them for audio equipment and use those 'old fashioned' but effective BNC connectors. Please.

### SHOPPING LIST

**Rocgen Plus genlock ......... £199.99**
**(RG310CP)**
**From SDL**
**10 Ruxley Corner Industrial Estate**
**Edgington Way, Sidcup**
**Kent DA14 5SS**
**☎ 081 309 1111**

### CHECKOUT
### Rocgen Plus Genlock

**Ease of Use** ●●●●●
Simple and straightforward.

**Features** ●●●●○
Marked improvement compared to the RG300C.

**Documentation** N/A
Not available at time of writing, though most people should easily figure out the connections.

**Price Value** ●●●○○
Justified in comparison to the RG300C, but not for output quality.

**Overall rating** ●●●●○

*Whilst the features improve the rating, they do not compensate for an output quality which is lower than it should be.*

video equipment – for instance to keep a SMPTE-equipped multi-track audio deck in sync with a video edit system. By locking the machines together using SMPTE code (and the hardware needed to read and interpret it) frame accurate editing can be carried out and the separate audio (for instance a mix of a live concert) can be added in complete lip-sync. The SMPTE time code is recorded as a track on the audio tape, as well as on the video tape.

However, *Showmaker* supports MIDI Time Code, which is a similar system but reliant on MIDI clock timing to drive *Showmaker*. So you need a MIDI interface and a converter to go from external SMPTE to MTC. The manual refers to JB Cooper's PPS-100, but there is also a cheaper PPS-2 model. Alternatively Dr T's Phantom SMPTE/MIDI interface, or the newly-advertised SAM from MAST, might do the job. Just make sure that the one you choose handles 30 fps (American rate) as *Showmaker* doesn't do 25 fps (PAL rate).

*Showmaker* also offers MIDI Clocks as a way of timing the presentation. This way any external MIDI device which produces MIDI clock pulses can be used to drive the show. So you could use a MIDI sequencer and have all the action directly synched to the music and timed in terms of beats and bars.

## JARGON BUSTING • JARGON BUSTING

**24-BIT:** 2 to the power 24 bits – ie 16777216 bits. Translated into colours this is over 16 million colours.

**ASCII:** American Standard Code for Information Interchange – which is the data storage method commonly used when we type text files and can be exchanged between different computers.

**BNC:** British Naval Connector – a type of connector commonly used for video which has a secure, bayonet light bulb type fitting.

**Component Video:** This is where various component parts of the video signal, such as chrominance and luminance are kept separate from each other. This can give a better quality picture than composite video as the components can be processed separately. An example of a component video signal is the Y/C format used in S-VHS, Hi-8.

**Composite Video:** A video signal including chrominance (colour hue and saturation) and luminance (brightness) information in one signal.

**Genlock:** A way of saving one video source (eg Amiga) to another (eg Video Tape) in order to synchronise their signals together to allow stable wipes, mixes and other effects including overlay (key) between the two sources.

**HAM:** Hold and Modify is an Amiga graphic mode allowing all 4096 colours to be displayed at once, with certain restrictions.

**MTC:** MIDI Time Code – ensures that as well as playing at the same speed, the instruments (in this case including ShowMaker) will all stop and start from exactly the same place in terms of bars and beats.

**NTSC:** (standing for National Television Standards Committee) – this is the name for the TV colour coding system used in the USA and other countries. It has 525 lines, running a 60 fields and 30 frames/second. It is often, and perhaps unfairly, japed at as Never Twice the Same Colour by PAL standard users.

**PAL:** The other main TV colour coding system (with the exception of France's SECAM system), which is in use around the world and was developed by Britain. PAL refers to Phase Alteration Line. In fact, there are several hybrid PAL systems in use, all of which are slightly different.

**S-VHS:** a modern video format where the signal is composed of 2 separate components (luminance and chrominance) rather than the mixed signal of composite. Result is higher quality.

**SMPTE:** Society of Motion Picture and Television Engineers – a professional organisation in the USA which sets technical standards for American broadcasting.

**TIME CODE:** is a numerical coding system recorded on to audio or video tape to uniquely identify hours, minutes, seconds and frames etc to allow accurate location of the tape at any point. Often referred to as SMPTE time code.

**WIPE:** describes a visual transition between two images, where the edge of one progressively obscures or reveals the other.

## REMOTE TOASTING

Yes, *Showmaker* does work with the Video Toaster. And I *have* tried this – those attending the TIME Multimedia show at Wembley in October may well have seen it running. But it really requires two Amigas – one with a Toaster and all its requisite extras fitted, the other with enough memory to run Showmaker (for instance a 1Mb A500). ARexx is also required on the Toaster Amiga. By connecting the machines via a null modem cable between the serial ports the Toaster can be remotely controlled by *Showmaker*. Sadly this feature won't be of much use to us Limeys until NewTek produce a PAL Toaster, which looks like being a while yet. Alternatively, it would be possible to use ARexx to control the Toaster without *Showmaker*, of course!

## GENLOCK CONTROL

*Showmaker*'s built-in control for Digital Creation's SuperGen 2000S – which is a good piece of genlock kit for the Amiga 2000 – is again of limited use to PAL users, as it has yet to appear in PAL format, but having talked with the DC reps at the World Of Commodore show, an external PAL genlock on the lines of the 2000S is on its way with S-VHS support. More details soon.

## PAPERWORK

The manual is good, but a lot of the time you are left to figure things out for yourself once you've got started and followed the brief tutorials.

The supplied video is great, well constructed and full of action. Orchestrated with *Showmaker* to boot. But there was a whole heap of expensive hardware involved in its making – including two Amiga 2000s, a Video Toaster, two 68030 cards, 24Mb of 32-bit memory, optical disc recorder, three storage devices of over 200Mb each, a dual serial board, SuperGen 2000S genlock, DPS Time Base Corrector and Roland MIDI equipment. And of course all the creative time and costs involved. Rather expensive I would have thought, but it proves what *Showmaker* is capable of.

## THE BOTTOM LINE

As probably the most comprehensive multi-media presentation software to hit the streets since *Amiga Vision*, *Showmaker* has a lot going for it. But for speed I think you'll require a go-faster Amiga with plenty memory.

Most of the innovations in *Showmaker* revolve around controlling external devices. The Internal tracks are OK, but not a major reason to buy this software. If you need control over external devices – especially the Toaster – and are prepared to invest in multi-serial port hardware, extra interfaces and cabling, you may find *ShowMaker* is presently the only way to get the job done. Otherwise, I would tend to stick with something cheaper and more user friendly such as *Amiga Vision*, *Scala*, *Elan Performer*, or *Deluxe Video* .

## STANDARD REQUIREMENTS

As usual, an Amiga with a hard drive, plenty of memory (2Mb+) and preferably an accelerator card. The rest of the hardware is up to you.

**Gary Whiteley is available as drgaz @CIX** AS

## SHOPPING LIST

**ShowMaker Gold Disk...... £249.99**
**Available from:**
**HB Marketing Ltd**
**Unit 3, Poyle 14**
**Newlands Drive**
**Colnbrook**
**Berks SL3 0DX**
**☎ (0753) 686000**

## CHECKOUT SHOWMAKER

**Ease of Use** ●●●○○
Inconsistent – makes some things easy, others more difficult.

**Features** ●●●○○
Lots of good ideas, many not realising their full potential.

**Documentation** ●●●○○
Tendency to be vague where detail is most needed

**Quality** ●●●○○
Variable – sometimes good, sometimes poor.

**Speed** ●●●○○
I wasn't too impressed with the overall speed.

**Price Value** ●●●○○
On a par with other 'pro' packages.

**Overall rating** ●●●○○

*Currently there's nothing quite like Showmaker, but I'm not sure it's worth dashing out and spending your money unless you really are desperate for serial port control.*

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Seikosha SP1900AI (9 pin Dot Matrix)........£124.99

Canon BJ10E.................................£264.99

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Star LC200 colour .................................£229.99
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# Flying Allotments!

## There's more to desktop publishing than meets the eye. Jeff Walker explains why...

This month I'm presenting you with a special tutorial. We're going to create a leaflet, or a 'flyer' as the Americans like to call them.

The situation is this: the local council has hit on the idea that selling the gardening allotments down the road to a development company will help to keep the area's poll tax at a minimum. A few locals are fairly upset about losing yet another large green area, but as yet there are not enough of you to form a convincing lobby. You've asked The Planning Officer to attend a meeting at the Village Hall next week. He's agreed.

Now you need to drum up some more support, by carefully preparing your propaganda piece.

The lobby needs a flyer. Because you've got an Amiga, some DTP software and a printer, you've been elected to produce it. As this article will show, there are many areas to be considered: financial as well as artistic.

### INITIAL PLANNING

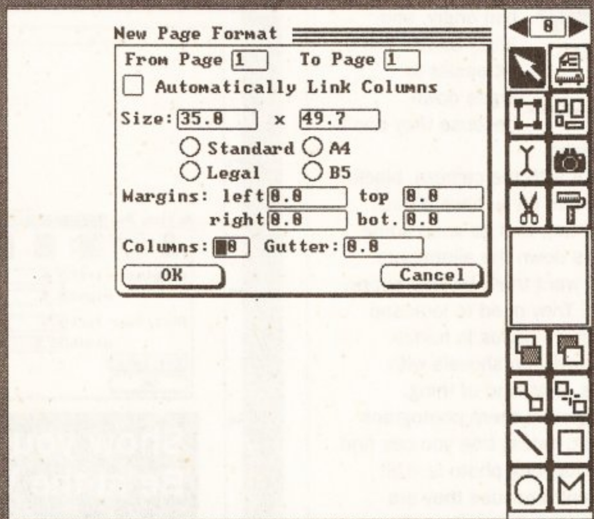
The first thing is to carry out some planning of your own. First there are the obvious things: How big will the flyer be? How many do you want? How much is it going to cost? And who is going to pay for it?

That's normally the order people in this situation ask themselves those questions, but they're actually in the exact reverse order. Who is going to pay for it decides how much you can afford to spend (that is, how much it is going to cost); this in turn decides how many you can reproduce, which itself is decided by how big the flyer will be. Every prerequisite seems to hang on another consideration, so don't underestimate the importance of this initial stage.

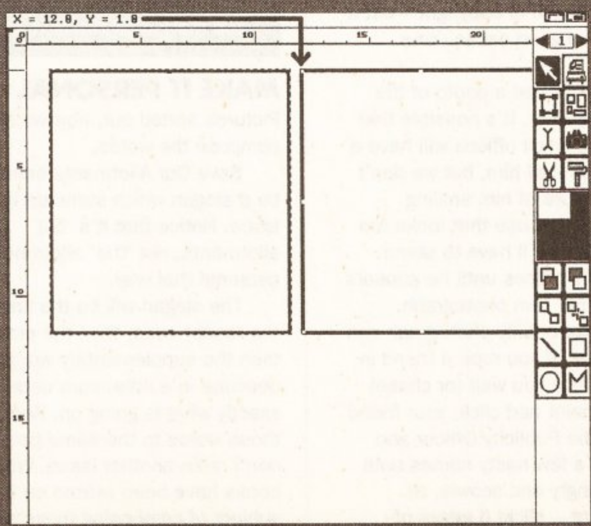
### PRINTING BY NUMBERS

If you're going to need thousands of them – and let's assume you will because you want to hand them out and pin them up all over town – then you must go to a proper printers. Don't even consider photocopying them yourself or going to a High Street copyshop, it'll cost too much. Check out the Yellow Pages, there will be lots of printers in your area.

A5 size will be considerably cheaper than A4. So tell the printers you will be giving them 'camera-ready artwork' and ask how much for 10,000 A5 leaflets on the cheapest paper that will give a reasonable quality, bearing in mind the resolution of your output device. Tell the printers the resolution your artwork will be, and whether it will be dot-matrix or laser/inkjet/bubblejet quality.




There isn't an A5 button, so enter the measurements into the string gadgets by hand (shown in picas here)




Keeping one eye on the box coordinates at the top left of the screen is much easier than counting all the units along the ruler

Once they've given you a price for 10,000, which is probably too many and too expensive, ask how much for 1,000 and how much the 'run-on' cost per 1,000 will be. Then you can sit down and work out how many you can afford. Make sure the cost for 1,000 plus a 9,000 run-on doesn't exceed the quote you were given for 10,000, which was the reason for asking for that price in the first place.

If you are sensible you will repeat this process with at least three printing firms. Go for the cheapest. Don't forget, there may be a delivery charge, if you can't pick the leaflets up yourself.

Now, I can hear a few readers mumbling about what on earth this has to do with desktop publishing. Well, DTP means nothing without reproduction, and this organisational side of things is almost always something inexperienced desktop publishers don't consider until after they've laid out the document, only to discover they've wasted their time because they didn't realise it would cost so much.

If your needs are more modest – 1,000 flyers or fewer – then photocopying is probably the cheapest way. You should be able to get the price down to at least 6p per copy for 1,000, and if you paste-up two A5 size flyers on to one A4 sheet.

You can in fact halve the reproduction costs by having two leaflets copied at a time and then asking for the A4 sheets to be guillotined in half.



**"In the desktop publishing column this month, I'm presenting a tutorial on creating a leaflet. Remember not to get too carried away with your artistic abilities. First make sure you analyse the financial side of things."**
**Jeff Walker**

## CONTENT AND DESIGN

Now we get down to what most people consider the 'real' planning, the content and design of our flyer.

The most important thing to remember is that the leaflet has a job to do. Its job isn't to attempt to convert people to the cause, neither is its job to show off how good you are at DTP – no, its job is to get as many people as possible down to the Village Hall next week, at which time we can convert them to the cause and get them fired up enough to have a go at the Planning Officer. Motivation is the key word.

## VISUAL IMPACT

Most people are too busy to worry about a little allotment they they probably didn't know existed, so we're going to have to prey on their emotions. We have to make them care or make them angry.

> *"Use the old sweet and sour routine which many soap operas use to keep you hooked."*

Another point to bear in mind is that if the flyer is too fancy or contains too many words and messages, it probably won't get read. So we should restrict ourselves to a single message and very few words. (If there is more than one issue at stake, then we must consider producing more than one flyer and distributing the different flyers singly in different parts of town.)

There are two more things to consider here: we need a slogan, and the design has to be eye-catching.

The successful application of these design considerations will mean the flyer stands a better chance of being read immediately rather than being tucked into a pocket or shopping trolley and subsequently lost or forgotten.

## ILLUSTRATIONS

OK, if we're going to use only a few words, then it's obvious that we need some pictures otherwise the leaflet will look a bit empty and certainly will not catch the eye.

We need to pick our pictures as we pick our words, so that they tug on people's emotions.

## EMOTIVE MOTIVATION

Giving senior citizens a hard time is something most people don't like to see, and the allotments are mostly populated by pensioners who will lose their favourite pastime, so there's one idea for a picture that should make people a bit angry.

Animals... everyone loves animals. And everyone hates anyone who kills or harms animals. The hedgehogs which live on the allotments will be homeless (or dead) if a factory is built on top of them, so there's an idea for a picture to bring out the old protective instincts.

And what about the trees? They'll have to cut the trees down. Some of those trees are more than 150 years old. Yeah, that'll get all the greenies on our side.

Hmmm. One more picture I think. A photograph of the Planning Officer to show people what he looks like. With a bit of luck this will make the Planning Officer recognise that if he dumps on the old people, kills the hedgehogs and cuts down the trees, the local population will remember that *he* did it, not some faceless council bureaucrat. It might have no effect, but with a bit of luck it'll make him angry, and angry people are a lot easier to argue down because they don't think straight.

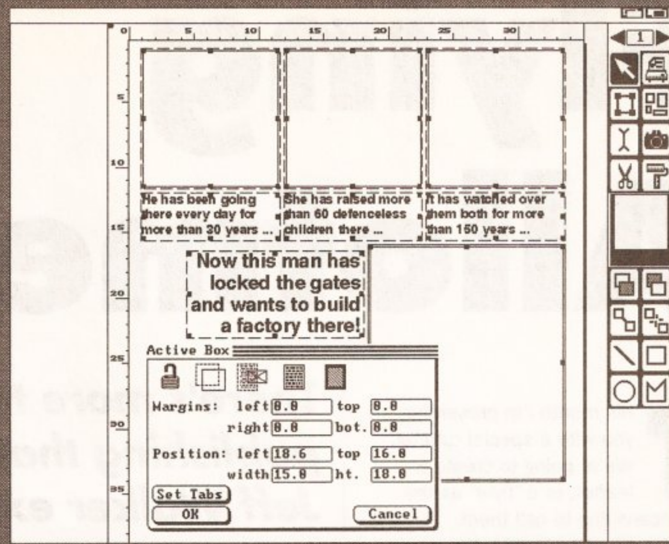
So, out with the camera, black-and-white film if you have it (but colour will do), and go snap some pensioners down the allotments. You don't want them looking happy. Nor angry. They need to look sad and pathetic – heads in hands, leaning heavily on shovels with long faces, that kind of thing.

While you're there photograph the biggest, oldest tree you can find.

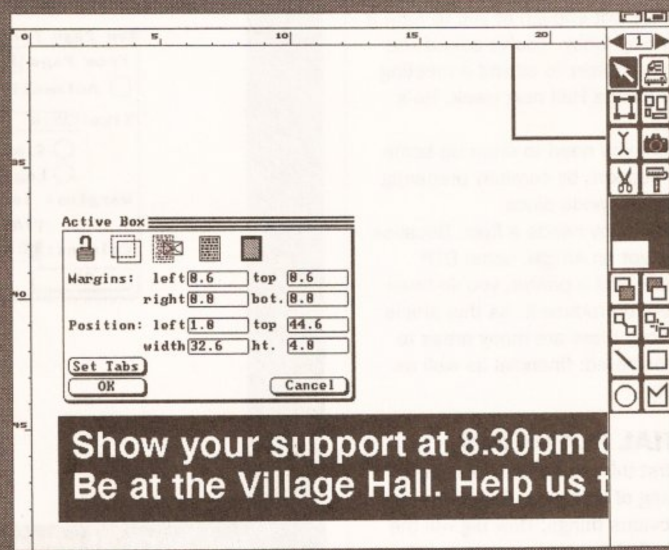
The hedgehog photo is a bit more difficult because they are shy little fellers that only come out at night. So get hold of a wildlife book and cut one out. (Only don't say I told you to because that's a breach of copyright – but it was all in a good cause, Your Honour.)

Now we need a photo of the Planning Officer. It's possible that the local council offices will have a publicity shot of him, but we don't want a picture of him smiling pleasantly because that looks too human. No, we'll have to stand outside his offices until he appears and take our own photograph.

A better quality photograph can be achieved if you rope a friend in on this; while you wait (or chase) ready to point and click, your friend hassles the Publicity Officer and calls him a few nasty names until he gets angry and scowls, at which point... click! (Letters of complaint should be addressed to: Dirty Tricks Dept, *Amiga Shopper*, Future Publishing, etc).




The Leaflet is beginning to take shape now, although to ensure the reader puts the emphasis on the correct word in the large caption I think we should set the word 'this' in italics so that it reads 'Now *this* man...' rather than 'Now this *man*... Having said that, I'm sure that the second way doesn't work better, hinting perhaps that the perpetrator of the plot is a 'mere' man? Ah! Decisions, decisions...




White-on-black panels in *Page Setter 2* are easy to do. Switch the box's frame on and give it a solid black fill pattern. Then highlight all the text and give it a solid white fill pattern. Insert a 6 point left and top margin so the text stands away from the edges.

## MAKE IT PERSONAL

Pictures sorted out, now we have to compose the words.

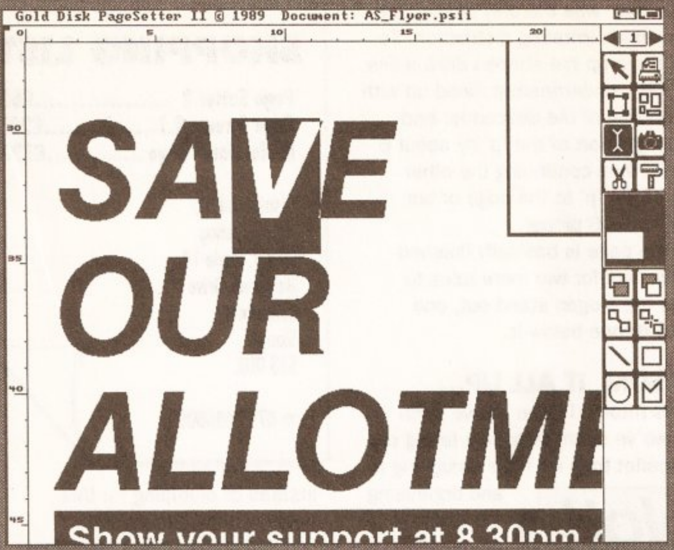
Save Our Allotments seems to be a slogan which sums up the issue. Notice that it's 'our' allotments, not 'the' allotments. It's personal that way.

The slogan will be the first thing the reader sees, then the pictures, then the supplementary words which describe in a little more detail exactly what is going on. Keep those words to the same point, don't raise another issue. Whole books have been written on the subject of composing these sort of words, which are closely related to advertising hype, so you'll forgive me if I simply point you at the example flyer I have produced and say "something like that", while freely admitting that I am no master at this particular trade (which is known as 'copywriting'). The golden rule here is: Less is More.

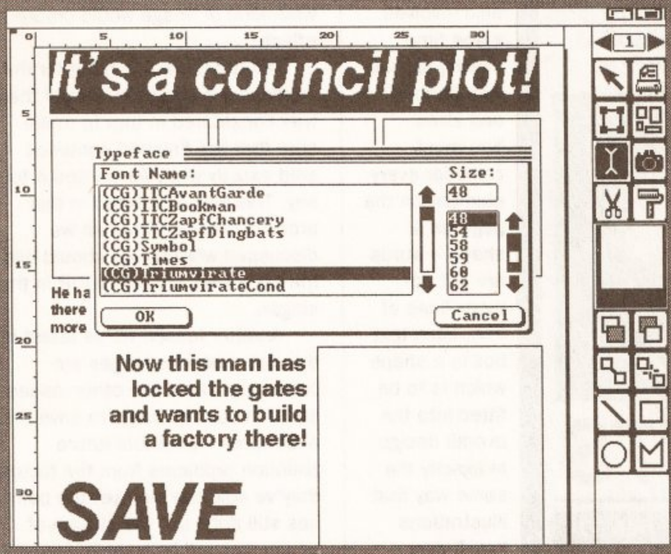
The heading at the top of my example is just something that came to me while laying the flyer out; it's a bit of a pun, albeit a corny one, but if you can make people laugh before making them cry it can amplify the overall effect – it's the old 'sweet-and-sour' routine which many sitcoms and soap operas use to keep you hooked.

## ENTER THE COMPUTER

All this desktop publishing and we




One of the things *Page Setter 2* can't do is 'kern' letters automatically, so you'll have to do it by hand, by (in this case) highlighting the letter 'V' and pressing the left arrow key until it is better positioned.




Triumvirate-Bold-Italics at 48pt didn't quite fit the hole, so I selected all and pressed the left arrow key once, thus reducing the space between each letter (the 'tracking') by a fraction. Then it fitted very nicely thank you very much.

haven't been anywhere near a computer yet, so I guess it's about time we booted up our copy of *PageStream*, *Page Setter 2*or *Professional Page*.

For a change I'm going to use *Page Setter 2* just to prove that you *can* get professional looking output from a package which costs less than £50. *Professional Page* users will be able to follow right along because *PageS etter 2*is basically a cut down version of *Professional Page*.

The first job is to create a new page of A5 size. There isn't a button for this size in the requester, so use the Layout Tools requester to change the Units and Grid measurements to Picas, create a new page and change the numbers in the Size gadgets to 35 and 49.7. Before clicking OK, turn Automatically Link Columns off.

The next job is to decide what we are going to do with the illustrations.

It occurs to me that the pensioners, the hedgehog and the tree are linked because they are the potential losers, so these 'green' pictures should appear in some kind of group on the page. the Planning Officer is the other side of the coin, so he should be isolated. We have to make it clear that his horrible scowling face is on one side of the issue, hopefully raising feelings of personal dislike in the reader, while the green pictures are on the other side, hopefully raising feelings of protection and sympathy.

One way to link the green pictures and isolate the Planning Officer is to publish the green ones all the same size, and the Planning Officer another size. Because the bigger we publish the photograph of the Planning Officer, the more heartless and calculating it will make him feel, we'll make his photo big and the other three smaller.

The green photos are the real issue of the flyer so we must make sure the readers see these first. Therefore we'll put them at the top.

Calculation time. The page is 35 picas wide. Remember that one pica is 12 points, so that equates to 420 points.

We have three pictures. We want a 12 point margin around the page, and we want 6 points of space between each picture. So going across the page from left to right we have 12 points of space (on the left margin), a picture, 6 points of space, a picture, 6 points of space, a picture, 12 points of space (on the right margin).

Adding up the space we arrive at 12 + 6 + 6 + 12 = 36 points. Subtract that from the total width of the page... 420 – 36 = 384 points. Divide that by 3 to determine the width of each picture... 384 / 3 = 128 points. That's the width figure for each of the green pictures.

So drag out a rough box on the page (using the tool underneath the Null Pointer gadget), select the Null Pointer and double click on the box to get the Active Box requester. Change the Width and Height of the box to 0.128. When you hit Return you'll see the numbers change to 10.8, which means 10 picas (120 points) and 8 points.

This is an awkward size because in a minute I want us to set up and stick to a 6pt by 6pt grid so that we can position and size the elements of the page quickly and accurately without fuss. So change the box sizes to 10.6 in both directions.

We want a border around the pictures, so switch the Frame gadget on (the one to the far right). Our border – or 'keyline' as it is known – will have a width or 'weight' of 1 point, and this gets drawn from the edges of the box inwards, so the actual white area within the box will shrink by 2 points to 10.4 picas square. To set the width of the keyline, click OK in the Active Box requester and set Line Weight in the Draw menu to 1 point.

Now that we've created one box we can Clone the other two because they will be exactly the same size, but before we do that set the Grid Size in the Layout Tools requester to 0.6 in both directions and turn Snap To Grid on. Don't turn the Grid button on else we'll have to wait for millions of small dots to draw themselves every time the screen refreshes – we don't actually need to see the grid to be able to use it.

Now click once on the box we created to ensure it is active, and duplicate it by selecting Clone Active from the Box menu. To position this new box accurately simply drag it until the coordinates shown at the top left of the screen tell you that the top left-hand corner is positioned correctly, which is X = 12.0, Y = 1.0. If you go into 200% magnification, you'll be able to do it by eye even more quickly.

Clone a third box and position that one 6 points to the right of the right-hand edge of the middle box.

Now, we've got two ways to put our photos into these boxes, we can either scan them and import them as bitmap graphics, or we can do it the traditional way by cutting (or 'cropping') the photographs to fit the boxes and then pasting them into the boxes. The traditional way is actually a lot simpler, and the results will be of a higher quality, although you must ask the printers to 'screen' these photographs. (Never expect a printing firm to do anything unless you specifically ask them to. Nothing `goes without saying'.)

The odds are that our snapshots will not fit in the holes we have made for them, even cropped they'll probably be too big. Don't panic, the printers can photo-reduce them. Crop the photos to be twice as big as the holes we've made – 3.5 inches square, which is 252 points (72 points to the inch) – and ask the printers to reduce them by 50 per cent. Make sure you give clear instructions about which photo goes in which hole.

The words underneath each photo will be in 12pt with the default leading of 2pt (an easily readable size) and will take up three

## RECOMMENDED READING

***Design for desktop publishing***
**By John Miles**
**Published by:**
**John Taylor Book Ventures**
**(1987)**

***Copy Editing***
**By Judith Butcher**
**Published by:**
**Cambridge University Press**
**(1975)**

lines each. The boxes to contain these words will therefore be 10.6 picas wide (the same as the photos) and 3.6 picas high (which is 42 points arrived at by adding 12+2 + 12+2 + 12+2). These boxes are positioned 6 points below the photographs. I've used Triumvirate for my text because Times is probably a little too 'traditional' to make a radical statement with. I've also set it in bold to make it stand out more.

## ALMOST THERE NOW

That's the good guys photos sorted out, now for the bad guy.

We'll have his photo about half the width of the page and higher than it is wide so that it is a different shape to the others as well as a different size. We'll put it below the group of three and make it start from about half way along the middle of the group, stretching to line up with the right-hand edge of the right-most photo above it. Or in technical talk from 18.6 picas, stretching 15 picas wide to 33.6 picas. We'll make it 18 picas high. Don't forget to give it a 1pt keyline like the others.

You should easily be able to crop your original photo and cut-and-paste the Planning Officer's face into this box, which measures 2.5 inches by 3 inches in old money.

As the Planning Officer's photo is larger than all the others, we ought to make the text which goes with his photo proportionally larger as well. It's about half as big again as the smaller ones, so we'll increase the text size to 18pt and the Leading to 3pt. We'll position this `caption' level with the top of the photo and right-justify the text so that it is immediately obvious that the words go with the picture.

We're left with an 'L' shape at the bottom of the page, which was the reason the Planning Officer's photo was positioned on the right of the page – if we write SAVE OUR ALLOTMENTS one under the other, they too make an 'L' shape.

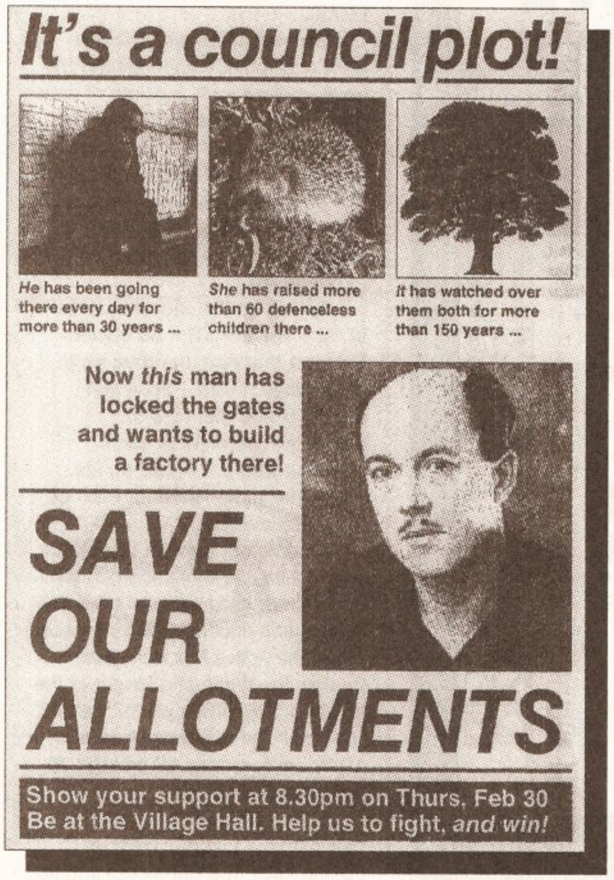
But before we do that we must make sure that people know when and where the meeting is, so we'll stick that in a white-on-black panel (a 'wob') at the foot of the page, two lines should suffice. Remember to use a bold typeface, and leave 1 pica below the wob as a bottom margin.

The space between the large photo caption and the wob is where our slogan will go. Drag out a box covering that area – don't worry about it going over the top of the photo box – and type the slogan (in capital letters to show you mean business!) pressing Return after every word.

Select all three words and adjust the Leading to 0pt, or 'set solid' as it is called; you will almost always find that the natural space between lines of text in large point sizes is enough leading in itself.

The point size of the slogan is dictated by the space it has to fill. Simply adjust it until it fits.

It was at this stage of creating my flyer that I decided that 'It's a council plot!' would be a good heading for the page – or a secondary slogan if you like. All the while I'd been looking at these photos along the top of the page and there was something I didn't like about the layout. It eventually dawned on me that, on the whole, most of the illustrative material was in the top half of the page and most of the words were in the bottom half.




**The finished article – what a wonderful piece of propaganda**

The page was unbalanced. What it needed was everything moving down the page a bit and some words along the top to redress the balance. (Rather than move each element one by one, it is quicker and easier to group them all and drag the group down a bit.)

Again, the point size of this heading was decided by however big it needed to be to fit all the way across the top. I set it in bold italics – bold so that it had a more solid look, italics to give it double emphasis and because it makes the text look more 'active', as if it has been caught freeze-frame while shifting from right to left.

After setting this heading I could see that is was a bad 'shape' – the 'p' in 'plot' was the only descender and was an irritating distraction. To straighten up the shape I drew a line (or 'rule') underneath it, lined up with the bottom of the descender and stopping short of the 'p' by about 6 points, then continuing the other side of the 'p' to the edge of our page at 33.6 picas.

The page is basically finished now except for two more rules to make the slogan stand out, one above it, one below it.

## TO SUM IT ALL UP...

In this tutorial I hope you've seen that we've spent less time laying out our leaflet than we have designing it and organising the external reproduction. This is just as it should be. The first stage of design is carried out 'on the fly' in your head and this also involves some time playing around with shapes and sizes. You must consider every element on the page as a shape – words are not so-many lines of text, each text box is a shape which is to be fitted into the overall design in exactly the same way that illustrations are. It may take you quite some time to come to terms with this concept because it goes against the natural feeling that words and pictures are two separate things because we `look at' pictures and `read' words. However, as designers and layout artists we are doing neither; once we've decided on the style of the text and set it, the completed box or boxes stop being words and become shapes. (Handy tip: the shapes are much easier to see with box outlines turned off.)

That's been the main lesson this month, but we've also learnt that *sometimes* the 'old-fashioned' traditional way of publishing is the quickest and cheapest way to get the result we desire. This is illustrated during the course of this article by the way we cut-and-pasted the photos on to our leaflet instead of plumping for this newfangled scanning lark.

You will no doubt also have seen that a great deal of thought and planning has to go into every element on the page. We didn't just run out and take the photos, we first thought about the effect we wanted each of them to have on the reader, and then we thought about what kind of image would create that effect.

We did the same thing for the words; each and every one of them was considered in turn to make sure that the finished sentence said *exactly* what we wanted it to say. This was illustrated in this article by the way inwhich we discussed whether we should use the word THE, OUR or YOUR in the slogan.

Another lesson we've learnt is that too many messages are confusing. There are other issues at stake in our campaign to save the allotments – potential future pollution problems from the factory, they've sold the land yet the poll tax has still gone up, the stream of lorries that will be rumbling to and from the factory, and there are plenty more – but we've only raised the 'green' issue in the leaflet so as not to overwhelm the reader with too much information.

Another vital lesson which ought to have become clear to you is that both the words and the pictures should interact for maximum impact

The most important lesson of this tutorial, however; has been that desktop publishing is at least 60 per cent preparation and design, sometimes more. *Think* before you ink! AS

## SHOPPING LIST

**Page Setter 2** ..................£62
**Page Stream 2.1**...............£205
**Professional Page** .............£130

Distributed by:
HB Marketing
Unit 3, Poyle 14
Newlands Drive
Colnbrook
Slough
S13 0DX

☎ 0753 686000

**Yes, we know we promised a review of Touch-Up 2. This hasn't been forgotten... a review plus hints and tips on the software will be featured in next month's issue.**

# Always on the alert!

## Gadget Images, Alerts, SuperBitMaps and the infinite beyond – Dean Cracknell continues his series on GFA Basic...

### ALERTS, THE FINAL WORD

Alerts are the "if all else fails ... PANIC!" messages that appear in red on black at the top of the screen. These are not the same as GFA-BASIC's ALERT command, which produces a Requester, not an Alert(!).

There are two ways of producing an Alert message: the first is to crash your Amiga in such a way as to create a GURU Meditation and the other is to use the System Library function 'DisplayAlert' from the Intuition Library. Listing 1 shows how to create an Alert message and call the DisplayAlert() routine. The Alert Message String is a strange little C type string which also contains the x-y co-ordinates of each line of text. Strings in C are not like strings in BASIC, but BASIC strings can be made to resemble C strings by making the last character in the string CHR$(0).

> **"Alerts should only be used in dire emergencies..."**

In the example the letters 'xxy' in string variable 'tmp$' mark the beginning of each text line that will be displayed in the Alert. These character positions will be overwritten with the x-y co-ordinates of each line – this is achieved in the program by searching for 'xxy' and replacing it with the co-ordinates. The Alert is generated by sending the address of this string (V:tmp$ is the address of the string-data) to DisplayAlert().

Because Alerts are used for GURU Meditations, they tend to generally produce an "oh-no-not-again" response from users, so should only be used in dire emergencies, when it is not possible to use a Requester.

### PICTURE THIS...

In the first article in this series a simple, single bitplane, bitmap was used to create a monochrome gadget of a small arrow. To make images using more colours, it is necessary to add more bitplanes to the map. Each bit in a bitplane represents one pixel on the screen, by taking the corresponding bit from each bit plane, a binary word is built-up which represents the PEN number for the pixel.

The Workbench screen uses a bitmap of two bitplanes, giving four available colours, Figure 1 shows how these bitplanes inter-relate to produce the extra colours. The two bitplanes can be used to form a 4-colour left-arrow gadget by writing the data for the two planes into an area

### LISTING 1 • LISTING 1 • LISTING 1

```
'
' Intuition Alert Example
'
' (c) Dean Cracknell (1991)
'
OPENW #1
'
' Set-up the AlertMessage ↲
String (see text)
'
'
tmp$="xxyALERT! ALERT! - ↲
DONT PANIC!  xxy[= LEFT =]↲
TRUE  xxyFALSE [= RIGHT =]↲
"
BYTE{V:tmp$+0}=0
' x co-ord MSB
BYTE{V:tmp$+1}=220
'! x co-ord LSB (x=256*1+0)
BYTE{V:tmp$+2}=16 ! y co-ord
p1=INSTR(3,tmp$,"  xxy")-1
BYTE{V:tmp$+p1}=0
' NUL terminate 1st line
BYTE{V:tmp$+p1+1}=1
' flag 2nd string follows...
BYTE{V:tmp$+p1+2}=0
' x co-ord MSB
BYTE{V:tmp$+p1+3}=16
' x co-ord LSB
BYTE{V:tmp$+p1+4}=32
' y co-ord
p1=INSTR(p1+1,tmp$,"  xxy"↲
)-1
BYTE{V:tmp$+p1}=0
' NUL terminate 2nd line
BYTE{V:tmp$+p1+1}=1
' flag 3rd string follows...
BYTE{V:tmp$+p1+2}=1
' x co-ord MSB
BYTE{V:tmp$+p1+3}=230
' x co-ord LSB
BYTE{V:tmp$+p1+4}=32
' y co-ord
p1=LEN(tmp$)-2
BYTE{V:tmp$+p1}=0
' NUL terminate 3rd line
```

BEGINNERS | BEGINNERS START HERE | BEGINNERS

***So why is Basic such a popular language?***

**simple, machine-independent functions.** [see below]

**It was originally designed to teach students how to program. Because of this, it has various advantages over other languages.**

**The core vocabulary uses words which are very much like English, so a student can quickly learn what particular instructions to carry out.**

**Basic was originally (and still is, in the main) an interpreted programming language. This means that, when a program is run, each of its instructions is translated by the computer in turn, with a corresponding action being performed before the next instruction is looked at.**

**Although Basic's method is slower than the more traditional compilation method (in which a program is translated wholesale before it is run) it does mean that programs can be tested while they are being written, and that they can be easily altered.**

**Because Basic is so easy to learn and use, it was *the* natural choice when manufacturers were looking for a language to include with their machines during the home computer boom of the eighties. Nowadays, Basic is one of the most popular and widespread programming languages – nearly every Amiga programmer began with Basic.**

***If it's so simple, why does it look so complicated?***

**The core of Basic provides only simple, machine-independent functions. As different kinds of microcomputers emerged with different facilities, the language had to be tailored to address these facilities.**

***Why are there so many different versions of Basic about?***

**Most manufacturers chose to develop their own versions of Basic for their own machines, taking sometimes radically different approaches to solve similar problems. Hence, many different versions of Basic now exist, without any clear standardisation, all of them with extra facilities for such things as graphics handling awkwardly grafted on to the original core.**

**There are now several versions of Basic which are available for the Amiga, all of them with different commands for handling sound, graphics, sprites and so on.**

***Where do I start?***

**Basic is still the best language for devising simple programs, and writing routines to handle graphics can be complicated in any language.**

***Amiga Shopper*, as well as catering for the advanced programmer, will cater for the beginner, too.**

**In the near future we will be running a series of programming articles aimed at the absolute beginner. Not only a lot of fun, programming is a great way to learn all about the Amiga.**

## LISTING 2 • LISTING 2 • LISTING 2 • LISTING 2 • LISTING 2 • LISTING 2

```
'
'  Simple Rendered Boolean Gadgets Example
'
'  (c) Dean Cracknell (1991)
'
' First Gadget
'
' Reserve Space for Gadget Structure
'
INLINE my1gad%,44
'
' Load the Gadget Files
'
myimage1%=@loadimage("gad-on.Image")
'
' Create Gadget Structure
'
LONG{my1gad%+0}=0        ! Pointer to next gadget
WORD{my1gad%+4}=40       ! LeftEdge
WORD{my1gad%+6}=20       ! TopEdge
WORD{my1gad%+8}=WORD{myimage1%+4}        ! Width
WORD{my1gad%+10}=WORD{myimage1%+6}       ! Height
WORD{my1gad%+12}=0+4     ! GADGEHCOMP | GADGIMAGE
WORD{my1gad%+14}=2+1     ! GADHIMMEDIATE | RELVERIFY
WORD{my1gad%+16}=1       ! BOOLGADGET
LONG{my1gad%+18}=myimage1%      ! GadgetRender
LONG{my1gad%+22}=0       ! SelectRender
LONG{my1gad%+26}=0       ! The Text
LONG{my1gad%+30}=0       ! MutualExclude
LONG{my1gad%+34}=0       ! Special Info (NONE)
WORD{my1gad%+38}=1       ! GadgetID (user defined)
LONG{my1gad%+40}=0       ! Pointer to UserData
'
' Open a couple of Windows to display the Gadgets and
' various messages...
'
idcmp%=&H260    ! tell me if WindowClose or Gadget is ↵
UP/DOWN
OPENW #1,0,20,319,70,idcmp%,&HF
TITLEW #1,"Window #1 - with 1 Gadget"
LOCATE 2,5
PRINT "A Rendered Boolean Gadget"
PRINT
PRINT "   (Close This Window to quit)"
idcmp%=&H0      ! don't tell me anything from this window
OPENW #2,321,20,319,100,idcmp%,&HF
TITLEW #2,"Window #2 - IDCMP Data "
'
' Add the two new Gadgets to Window 1
'
fred=AddGList(WINDOW(1),my1gad%,-1,2,0)
~RefreshGadgets(my1gad%,WINDOW(1),0)
'
ON MESSAGE GOSUB what_message
'
wclose!=FALSE
REPEAT
  SLEEP
UNTIL wclose!
'
' Clean-up Memory - BASIC does not automatically de-↵
allocate on exiting
'
fred=RemoveGList(WINDOW(1),my1gad%,2)
fred=@freeimage(myimage1%)
CLOSEW #1
CLOSEW #2
END
'
PROCEDURE what_message
  LOCAL msg%,gadno&
  '
  msg%=MENU(1) ! IDCMP-Flags
  gadptr%=MENU(4)+38
  IF EVEN(gadptr%) THEN
  gadno&=WORD{gadptr%} ! Read which Gadget
  ELSE
  gadno&=-1
  ENDIF
  SELECT msg%
  CASE &H20
  PRINT "GADGET ";gadno&;" DOWN    "
  CASE &H40
  PRINT "GADGET ";gadno&;" UP      "
  CASE &H200
  PRINT "WINDOW CLOSED"
  DELAY 0.5
  wclose!=TRUE
  ENDSELECT
RETURN
'
' This Function loads the 'img$' file into CHIP memory
' the function returns the start address of the
' structure
' Varible 'kk&' is returned with the length of the memory
FUNCTION loadimage(img$)
  OPEN "i",#1,img$
  kk&=LOF(#1)
  CLOSE #1
  image%=MALLOC(kk&+2,&H100002) ! The Image (MUST be in ↵
CHIP Memory)
  WORD{image%}=kk&
  image%=image%+2
  BLOAD img$,image%
  LONG{image%+10}=image%+20
  RETURN image%
ENDFUNC
'
' This Function frees-up the allocated space
'
FUNCTION freeimage(image%)
  IF image%<>0 THEN
    image%=image%-2
    kk&=WORD{image%}
    IF kk&<>0 THEN
      a=MFREE(image%,kk&)
    ENDIF
  ENDIF
  RETURN a
ENDFUNC
```

of CHIP memory that has been reserved using MALLOC and linking this into an Image Structure. To ensure that the image is rendered in 4 colours, the Depth and PlanePick values of the Image Structure are set to 2 and 3 respectively (&H01 + &H10 = &H11).

`IFF_TO_BOB (or IMAGE, or ↵ SPRITE, or PUT$, or ACBM)`

Working out the image for a gadget using binary is tedious, especially when the image can be easily hand-drawn (or magnificently rendered – depending upon your skill) using a paint program, such as *DeluxePaint*. So why not use your favourite drawing package, save the picture and then use another program to clip-out the gadget image and then paste it into your program. One of the demonstration programs supplied with the GFA-BASIC Interpreter will do just that: called IFF_TO_BOB.GFA, it enables you to load a standard Amiga IFF picture, cut pieces out and save it in one of five different formats. Unfortunately there is no documentation for this program and the remarks in it are written in German, however, that is not too much of a problem, as the data we are dealing with is pictorial and hence breaks most language barriers.

The option we are interested in is "IMAGE". This produces a file on disk which is a combination of an

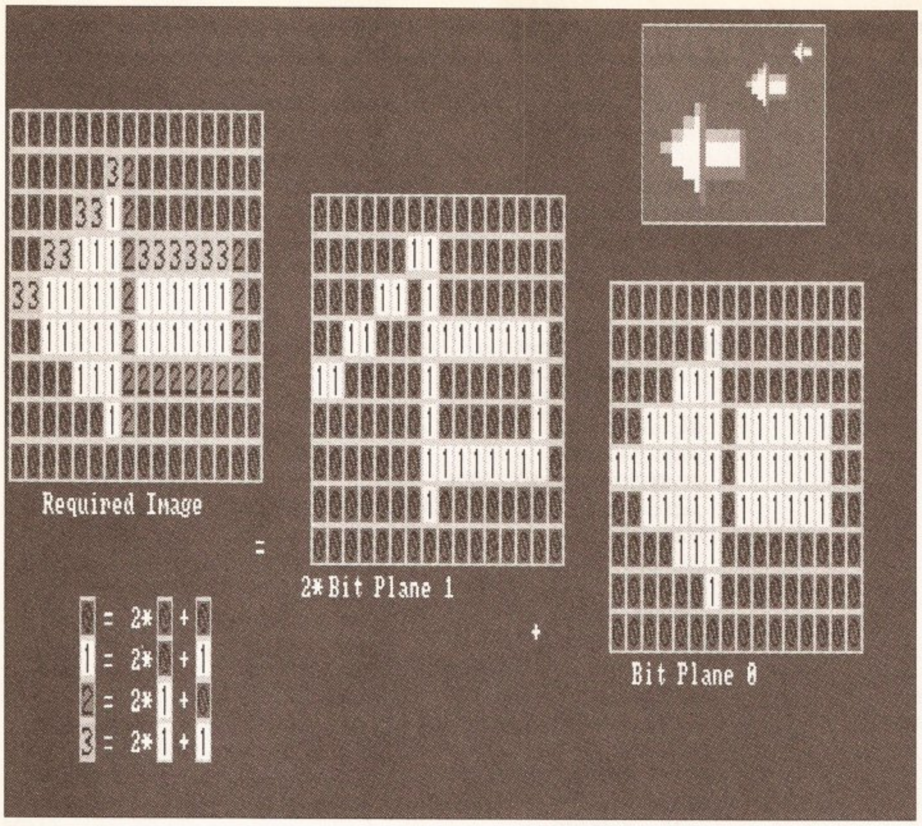



**Figure 1 – An example of a bit-map of two bit-planes used on the Workbench screen**

Intuition Image Structure and the data for the picture that you have clipped-out.

Listing 2 gives two GFA-BASIC functions which can be used to load these images into CHIP memory and to release the CHIP memory once you have finished, the 'loadimage' function can be called as many times as you like to load as many gadgets as required. However, for each image loaded you *must* call a corresponding 'freeimage' to release CHIP memory before your program terminates – otherwise the allocated memory will be lost to the system until you re-boot your Amiga.

> **"The initialization of the bitmap must be accomplished by the programmer himself."**

Before running this program you will have to create an Image-file on disk using IFF_TO_BOB called "GAD-ON.IMAGE". This can either be a Gadget-button of your own design, or any rectangle cut from an existing picture – for this example, ensure that your gadget is cut from a 4-colour picture because the program creates this Gadget on the Workbench screen.

If you require some more colourful gadgetry, then you will have to open a new screen with the desired number of colours and create your gadgets in there. Because IFF_TO_BOB actually creates the Image Structure for you, all the Image parameters will be set correctly for the increased screen depth.

IFF_TO_BOB has several other modes in which you can save your clipped images. SPRITE, BOB and ACBM are covered in the GFA demonstration programs on the GFA disk.

The IFF_TO_BOB program even shows how a BOB can be used to create a custom mouse-pointer, using the undocumented DEFMOUSE statement).

## PUT THAT IMAGE DOWN (YOU DON'T KNOW WHERE IT'S BEEN)

In Listing 3 an INLINE statement is used to store image data in a program so that it does not have to be loaded from disk each time. In this example, a (fairly large) rectangle was cut from a 4-colour picture using IFF_TO_BOB and saved as a PUT$ file. The INLINE statement was then set to the length of the PUT$ file, which was found by typing FILES in the direct mode (In the GFA editor, press [ESC] and type FILES) – in the example my PUT$ file length was 12,886 bytes long – your image will be different and the numbers will need to be changed accordingly. The INLINE statement reserves a block of memory within the program-body of the specified length, the start address if this memory is returned in variable 'b%'. To load your image into this area: place the cursor on the INLINE statement and press the [HELP] key, where upon the top menu line will change; select the LOAD option and load your PUT$ image file from the file-selector. Once your Image is loaded into the INLINE statement, save the entire program back to disk as normal, using SAVE not SAVE,A.

### LISTING 3 • LISTING 3 • LISTING 3

```
'
' Program with PUT image ↵
stored in INLINE code
'
OPENW
#2,157,42,325,174,0,↵
&H1400
TITLEW #2,"InlineImage:"
' Place cursor on next ↵
line and press [HELP]
INLINE b%,12886
' the size of the above ↵
line (12886) is set to ↵
the length of
' the .PUT file on disc.
put_title$=""
'
old_adr%=LONG{*put_ ↵
title$}
old_len&=WORD{*put_ ↵
title$+4}
'
LONG{*put_title$}=b%
WORD{*put_title$+4}=12886
PUT 0,0,put_title$
'
LONG{*put_title$}= ↵
old_adr%
WORD{*put_title$+4}= ↵
old_len&
'
WHILE MOUSEK=0 AND ↵
INKEY$=""
WEND
CLOSEW #2
END
```

Rather than copy this data from the INLINE statement into a BASIC String variable, which is slow and doubles-up on the memory used, the program redirects an existing string variable so that it thinks its data-area is the INLINE area.

In BASIC, strings are composed of a String Descripter and a Data Area where the string data is stored, the string descripter contains two pieces of information which describe the string: the address of the data area and its length.

The program modifies this information so that the string-variable uses the INLINE data as its data area, [the '*' at the beginning of the string name is used to return a pointer to the string descripter (ie its address) and is the same as ARRPTR(put_title$)]. To ensure that BASIC's string space does not become corrupt, the original values in the string descripter are restored after PUT$ has done its job.

> **BLITS**
>
> *The tricks that work are the simple tricks. For any new science to succeed it has to start by being very simple.*
>
> *Benoit Mandelbrot*
>
> **& BOBS**

## SUPERBITMAP WINDOWS

Our final foray into the wonderful world of GFA BASIC deals with Super Bitmap Windows.

Super Bitmap Windows are the kind of windows which do not have their contents destroyed when the window is resized. Other BASICs for the Amiga open SuperBitmap Windows by default, GFA does not ... the GFA manual says "The initialization of the bitmap must be accomplished by the programmer himself" (!). The bitmap is a C structure which looks like this:

(Note: U means Un-signed):

```
struct BitMap {
 UWORD BytesPerRow;
 UWORD Rows;
 UBYTE Flags;
 UBYTE Depth;
 UWORD pad;
 PLANEPTR Planes[8];
}
```

Counting 2 bytes for UWORD, 1 byte for UBYTE and 4 bytes for each of the 8 PLANEPTR's, 40 bytes need to be reserved in BASIC for this structure. A call to the System Library function 'InitBitMap' will initialize all of the structure except the pointers to the Raster bitplanes where the image will be drawn.

## LISTING 4 • LISTING 4 • LISTING 4 • LISTING 4 • LISTING 4

```
'
' An example of a SuperBitMap Window
'
'   (c) Dean Cracknell (1991)
'
'
OPENS 1
DEFINT "a-z"
ON ERROR GOSUB trap
ON BREAK GOSUB trap
'
' Create a BitMap Structure
'
bitmap%=MALLOC(40,&H10001)
'
' determine current screen parameters
'
srastport%=SCREEN(1)+84
sbitmap%=LPEEK(srastport%+4)
scrdepth&=PEEK(sbitmap%+5)
depth&=scrdepth&
'
' our new window limits
'
width%=640
height%=100
opened%=0
'
' Initialize the BitMap Structure
'
~InitBitMap(bitmap%,depth&,width%,height%)
quit%=FALSE
FOR i%=0 TO depth&-1
   bitmap_plane%=↵
AllocRaster(width%,height%)
   LONG{bitmap%+8+i%*4}=bitmap_plane%
   IF bitmap_plane%=0 THEN
   PRINT "PANIC - outa memory"
   i%=depth%
   quit%=TRUE
   ELSE
   opened%=i%
   rasize%=height%*width%/8
   ~BltClear(bitmap_plane%,rasize%,0)
   ENDIF
NEXT i%
IF quit% THEN
  GOTO whoops
ENDIF
'
' Now that the bitmap has been set-up, we
' can open the window
'
OPENW
#1,100,50,width%/2,height%,0,&H4A3,1,↵
bitmap%
LIMITW #1,0,0,width%/2,height%
TITLEW #1,"SuperBitMap Window"
'
' Now fill the screen with something
'
PRINT ""
PRINT "SuperBitMap Window"
PRINT
PRINT "Amazing Graphic coming up"
PRINT
PRINT " over there ———————>"
FOR i%=0 TO 359 STEP 8
  SETDRAW 460,50,i%
  GRAPHMODE 3
  DRAW "fd 45 rt 90 fd 45 rt 90 fd 45 rt ↵
90 fd 45"
  DRAW "bk 90 rt 90 bk 90 rt 90 bk 90 rt ↵
90 bk 90"
  GRAPHMODE 3
  DRAW "fd 45 rt 90 fd 45 rt 90 fd 45 rt ↵
90 fd 45"
  DRAW "bk 90 rt 90 bk 90 rt 90 bk 90 rt ↵
90 bk 90"
NEXT i%
'
' The window is now ready for a brief↵
demo of
' what a SuperBitMap can do...
'
rastp%={WINDOW(1)+50}
layer%={rastp%}
wscreen%={WINDOW(1)+46}
layer_info%=wscreen%+224
RASTPORT rastp%
dx%=width%/100
FOR i%=0 TO 49
  VSYNC
  a%=ScrollLayer(layer_info%,layer%,dx%,0)
NEXT i%
FOR i%=0 TO 49
  VSYNC
  a%=ScrollLayer(layer_info%,layer%,-↵
dx%,0)
NEXT i%
LIMITW #1,0,0,width%,height%
PRINT ""
PRINT "Re-size Window to See it"
PRINT "(Press both Mouse-Buttons to ↵
quit)";
WHILE MOUSEK<>3
WEND
' BASIC cannot know where we have reserved
' memory
' so cannot reclaim it when we have
' finished, hence
' we have to do it.
'
' The Error trap routine is also used to
' tidy-up
' memory on a normal quit.
'
whoops:
CLOSEW #1
'
' Release the Raster-Memory back to the
' system
'
FOR i%=0 TO opened%
  bitmap_plane%=LONG{bitmap%+8+i%*4}
  IF bitmap_plane%<>0 THEN
    ~FreeRaster(bitmap_plane%,↵
width%,height%)
  ENDIF
NEXT i%
'
' Release the BitMap Structure back to the
' system
'
IF bitmap%<>0 THEN
  a=MFREE(bitmap%,40)
ENDIF
CLOSES 1
END
PROCEDURE trap
  RESUME whoops
RETURN
```

## SHOPPING LIST

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Function 'AllocRaster' is used to allocate each bitplane in turn, so must be called for each plane used (as determined by the screen depth). This memory area is not part of the GFA-BASIC environment, so it must be returned to the system by the program when the program terminates by calling 'FreeRaster'. If the Raster allocation was successful, the memory is cleared using 'BltClear' otherwise the program terminates.

This concludes the bitmap initialization, so the window can now be opened with the SuperBitMap flag set (&H80). The remainder of the program is a short demonstration of the main features of this type of window, (try doing the same thing in a standard GFA window).

### C – THE FINAL WORD?

You should be aware from these articles that exploring around in the System Libraries is reasonably easy to do using GFA BASIC. However since the data structures which are required by these routines were originally written for C programmers, the ability to convert these from C to BASIC is very much a necessary skill.

If you understand C, can convert from C to GFA-BASIC and require further information concerning the System Library functions, the ROM Kernel Manuals are a good, if expensive, source of reference material. They are essential for the serious programmer. These can be purchased from most of the larger bookshops.

### PLENTY FISH IN THE C

It is also worth dipping into the Public Domain for Fred Fish Disks FF337 and FF344, as these disks, (which un-ARC up to three and two disks worth of data respectively), contain several C examples of most of the System calls. As far as I know nothing is available of such depth in BASIC, and even less in GFA-BASIC.

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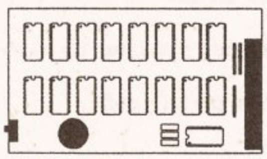
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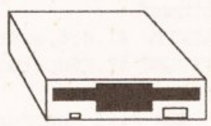
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50 Does your job largely involve working with computers?
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# Cracking the shell



"If Workbench 2 is really so good, what about AmigaDOS? Is it really worth the aggravation? I believe it is – Here are my reasons..."
**Mark Smiddy**

## *Was AmigaDOS 2 worth the wait? Mark Smiddy explains some of the changes...*

There has been a great wave of excitement surrounding the launch of the new Amiga machines. At long last the Amiga has exactly the sort of GUI it has always deserved in the form of the new Workbench. But just under the surface, the new machine features a completely revised AmigaDOS. Like the new Workbench, AmigaDOS 2 is more user friendly, easier to use and far more logical than ever before. At long last, the user level software finally matches up to the hardware; the Amiga has come of age.

This special feature is primarily for users who have just upgraded to Workbench 2 – new users can consult the Beginners Section. It does not cover all the changes in AmigaDOS 2 – there are too many of them – it merely highlights some of the more important changes.

### GENERALLY SPEAKING

The whole of AmigaDOS has been re-written in the C language – converting from the archaic BCPL of the old system. Every single command, including the dos.library, has been re-coded – bringing it more into line with the rest of the system. This means that programmers will find AmigaDOS easier to communicate with and, as a result, programs should run more smoothly under AmigaDOS 2.

Most of the common commands have been made internal, that is to say, ROM resident. This should have been done years ago, but as the saying goes, "better late than never." The consequent effect is a great reduction in the need to constantly swap disks on single drive machines. Add to this the new version of the ASSIGN command which allows AmigaDOS to get fonts, libraries, device drivers etc from any disk and you begin to see just how much better AmigaDOS 2 really is.

### REALLY WILD

Standard routines such as pattern matching and argument parsing are now implemented in the ROM and available for anyone to use. Surprising as it may seem, in all previous versions these hideously complex routines used by AmigaDOS were not available to user programs. The side effect of this is that many more commands now take advantage of pattern matching and the better argument templates.

Let's take a quick look at some of the new features here. The two new patterns are: ~ or NOT and % or NULL. The NOT function reverses the action of any pattern, so:

`DIR (#?.INFO);` lists just dot-info files

and:

`DIR ~(#?.INFO);` lists everything but dot-info files

The NULL wildcard matches nothing – so it might seem a little useless. In fact it is used in pattern groups such as:

```
DIR CHAP(TER|%)
```

which roughly translated means match anything starting with "CHAP" or "CHAPTER". The "?" wildcard cannot work in a case like this because it must match one character for every ? wildcard used.

Three new argument types have been added to the command parser. These will appear as follows:

**/F FINAL.** This argument must be the last on the command line.

continued on page 92

**BEGINNERS** — **BEGINNERS START HERE** — **BEGINNERS**

***What is AmigaDOS?***

**AmigaDOS is the Amiga's high-level device operating system, the link between you and the machine's external devices such as disk drives; printer port; serial port; console windows and so on.**

**Like Workbench, AmigaDOS enables you to communicate with the machine by giving it commands. Many basic operations (deleting files, running programs and so on) can be performed by Workbench – but AmigaDOS gives you ultimate control.**

***What is the Shell?***

**Shell is AmigaDOS's command line interpreter. You use Shell to enter and edit your commands before passing them over to AmigaDOS programs. This technique might seem a little alien if you have not come across it before and is better explained by analogy.**

**All command line interpreters use the same basic system based on simple English clauses, viz: a verb (action) a noun (the subject to perform the action on) and an optional adverb (how to perform the action).**

**Many verbs (commands) can be used in the infinitive and issued on their own which is rare in English unless you are giving orders (Sit! or Attention! etc). This might all seem like technical English, but imagine you are giving commands to a dog to retrieve a stick:**

| Verb (action) | Noun (what) | Adverb (how) |
|---|---|---|
| Fetch | | |
| Fetch | stick | |
| Fetch | stick | quickly |

***What is a command line then?***

**Commands are the AmigaDOS equivalent of verbs. Many can be used without noun clauses – like the first example of FETCH above. Many commands also require an object (noun) to operate on and have optional manipulators (adverbs).**

**In AmigaDOS we call the objects and manipulators parameters.**

**Just as in written English, correct spelling and punctuation are vital if the interpreter is going to understand you. For instance, entering:**

**DIRSYS:ALL**

**is the same as writing**

**SHOWMEEVERYTHING**

**You must separate everything with spaces, the previous command written with spacing:**

**DIR SYS: ALL**

**makes sense to AmigaDOS, just like:**

**SHOW ME EVERYTHING**

**should make sense to you. At this point the analogy starts to fall apart. If you keep thinking in terms of writing things down clearly and concisely, AmigaDOS will usually understand or give a meaningful error.**

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continued from page 90

It allows the command to read extra spaces (for instance) without the need for quoted strings.

**/N NUMERIC**. Such arguments will only accept numeric inputs. This feature is used to protect commands such as EVAL and ADDBUFFERS from receiving dud values through typing mistakes.

**/M MULTIPLE.** When this appears the argument can take one or more parameters. The best example of this is the new MAKEDIR which can now create multiple nested directories in one fell swoop, so the AmigaDOS 1.3 construct:

```
1>MAKEDIR First
1>MAKEDIR First/Second
1>MAKEDIR First/Second/Third
```

can be replaced by a single line

```
1>MAKEDIR First First/Second↵
First/Second/Third
```

• **CAUTION** The multiple argument is also available with DELETE and this can cause serious problems just by a simple typing mistake. Let's say you wanted to clear some document files from the root directory of the RAM disk. The command could be:

```
1>DELETE RAM:DOC#?
```

however, by simply mis-typing an extra space between the name and the wildcard...

```
1>DELETE RAM:DOC #?
```

...AmigaDOS 2's multiple argument parser reads the line thus:

```
DELETE RAM:DOC
DELETE #?
```

which means delete the file RAM:DOC and attempt to delete everything in the current directory. Taking DELETE's new FORCE switch into account (which deletes "delete protected" files), this adds up to a potentially devastating command.

## NEAT TRICKS

It's not all doom, gloom and dangerous pattern matching though. One of the most commonly used commands in AmigaDOS is CD – Change Directory – and for AmigaDOS 2 this is much simpler to use. To change to any directory the command is implied automatically, viz: The following in AmigaDOS 1.3...

```
1>CD PREFS
1>CD DEVS:KEYMAPS
1>CD //
```

become in AmigaDOS 2...

```
1>PREFS
1>DEVS:KEYMAPS
1>//
```

This is useful, but you still have to type the entire path. For many cases a wildcard would be useful – and that's precisely what AmigaDOS 2 offers. For instance:

```
1>CD P#?; enters Prefs
1>CD :D#?/K#?    ; enters↵
:DEVS/Keymaps
```

Notice how in the second example the pattern (#?) was used twice? This is a another new feature in AmigaDOS 2 which allows the use of multiple patterns in path descriptions. (See Smiddy's Red Hot Tip.)

## CON MAN

The birth of AmigaDOS 2 has also seen the demise of the NEWCON: device. NEWCON: was the special console window driver introduced in Workbench 1.3 which allowed editing in Shell windows.

All the features of NEWCON have now been incorporated into CON: and that should also mean some older software which uses CON: windows will benefit from the extra features.

The CON: driver has also been updated to take advantage of some special Intuition flags (see description below) which will be useful for script files and special commands.

Console windows now respond correctly to the EOF sequence CTRL+\.

**AUTO** When this flag is added the console window opens and closes automatically when required. A typical example might look like this:

```
1>COPY PIPE:OUT↵
CON:0/0/639/200/Output/AUTO↵
/WAIT
```

In the example the window will open, display the output from the pipe and wait for the user to close the window. See the WAIT flag below.

**BACKDROP** The window opens behind all the others on the Workbench screen. This flag should be used with care since the standard gadgets are not available. This option can be used in tandem with the NOBORDER flag to provide a Shell "screen" on the Workbench like this:

```
NEWSHELL↵
CON:0/0/639/255/Shell↵
/NOBORDER/BACKDROP
```

By executing this command from the Workbench's Execute feature, you can close the Workbench completely and work quietly away on a screen completely uncluttered by icons.

**CLOSE** The window will have a close gadget. This option is default.

**NOBORDER** The window will not have a left or bottom border area. The size and close gadgets will be available though.

**NODRAG** Prevents the window from being moved by dragging the title bar.

**NOSIZE** Disables the size and zoom gadgets.

**SIMPLE** If the window is made larger the text will be expanded to fill the display. This option is default. (Intuition programmers should note this flag is different to its normal meaning.)

**SMART** Disables the effect of the effect of simple window refresh. This option is slightly more memory efficient and might be used in conjunction with the NOSIZE or BACKDROP flags. (Intuition programmers should note this flag is different to its normal meaning.)

**WAIT** The window will remain open until it is closed with the close box or CTRL+\.

## POSH BOOTS

One of the best improvements to Kickstart 2 affects not just AmigaDOS, but also the machine as a whole because it is now possible to boot selectively from any auto-mounting hard disk partition or disk drive. (This will only affect users with one or more extra floppy drives or a hard drive – but these are essential items anyway.) There are two ways to use this feature:

1 If you do not have a hard disk drive attached, place a boot disk (a Workbench disk for instance) in any external drive and re-boot the machine. (By default, DF0: – the internal drive – has priority over all drives so make sure that drive is empty.)

2 Whether or not you have a hard drive, the alternative method is far more powerful. Reset the machine and hold down both mouse buttons as it goes through the startup self-tests – that's when the screen cycles through several shades of grey. Before the insert Workbench icon appears, you will be presented with the first page of the new "Boot Menu". On most machines the "Next Page" gadget located at the bottom right of the screen

## JARGON BUSTING • JARGON BUSTING

**Micon –** Moving or animated icon. Seen on the startup screens of more recent machines such as the A3000 and A500Plus.

## SMIDDY'S RED HOT TIP

**This month's tip is one of those little aliases which are so obvious you kick yourself. It allows AmigaDOS 2 users to take advantage of the ambiguous pathname matching facility of CD. Pardon? OK, it allows you to change directory without having to type the whole name. For instance, instead of using...**

```
1>CD DEVS:KEYMAPS
```

**you would use:**

```
1>CX DEVS:K
```

**Add the following line to S:Shell-Startup:**

```
ALIAS CX CD []#?
```

**From now on every new Shell you open will have the CX "command" available. AmigaDOS 1.3 owners can also gain this facility (although it doesn't work as well) by using the following alias:**

```
ALIAS CX SPAT CD []#?
```

will be shadowed – this is normal.

The list shows all the bootable drives and drive partitions currently available to the system.

Typically, if you have an A590 or similar with two partitions (that is, DH0 and DH1:) and one extra drive the list will contain the following items:

DF0:
DH0:
DF1:

This means that the machine can be booted from any of those drives just by simply clicking on the name.

Sharp-eyed readers and some A590 owners may have noticed the second partition (DH1: in this case) is missing. That's because most hard drives are only configured to boot from one partition – usually the first one. (Of course it is quite possible to fix this by using the partitioning software which came with the drive, if that is what you want to do, by making the required partitions bootable.)

You may also notice that DF1: appears last in this list. As the machine starts DF0: is automatically assigned a boot priority of 5 when the system mounts it. DF1: gets -10, DF2: and DF3: are assigned -20 and -30 respectively.

Hard disks are a little different in that you can set their boot priority from the partitioning software – usually from the advanced options menu. By default, all hard disk partitions should be given a priority of less than five or they will override the internal disk drive and you will not be able to boot any normal disks. By using the boot priority it is possible to make the system poll some or all of the external floppy drives before looking at the hard drive. This practice is not recommended unless you know what you are doing.

Returning to the boot menu, you will notice a further button for Advanced Options. For our example see Figure 1 above.

The contents of this screen are primarily for information only although you can alter the status cycle gadget of each device on the list to disable it. (Note: you must have at least one bootable device.) It is not generally a good idea to disable anything without good reason, although this does remove the need for an on/off switch on floppy disks and game switches on hard disks!

Here is what the other items mean:

**Figure 1**

| Status | Partition Name | Type | Priority | Device | Unit |
|---|---|---|---|---|---|
| Enabled | DF0: | DOS0 | 5 | trackdisk | 0 |
| Enabled | DH0: | DOS1 | 0 | scsi | 3 |
| Enabled | DF1: | DOS0 | -10 | trackdisk | 1 |

**Partition Name** – The name assigned to the hard disk partition or the number of the floppy drive.

**Type** – Unless Commodore pull any more surprises this will be either DOS0 for OFS (old filing system) or DOS1 for FFS (Fast Filing System). Most modern hard disks will be FFS.

**Pri** – The boot priority assigned to the device. Note the list is sorted according to device priority. In this way you will know which drive will be checked first.

**Device** – The name of the software "device driver" which is looking after that particular drive. For most units this will be either trackdisk for floppies or SCSI for scsi hard drives.

**Unit** – The unit number assigned to the bootable device. Floppy drives are numbered automatically by the system. SCSI hard drives will show according to unit number. More than one bootable partition can live on the same SCSI unit number (address).

At the bottom of this screen is a cycle gadget to enable or disable the startup-sequence. This is for advanced AmigaDOS users only and enables the machine to be started normally and left in a vanilla AmigaDOS environment. That is the Workbench, software patches and so on will not be activated.

## MORE NEAT TRICKS

AmigaDOS has followed the Unix road in many respects thanks to the revamp. Although many features and facilities have been retained for downward compatibility, many more have been borrowed from other systems. For instance the environmental variable handler now works properly and can give rise to some startling possibilities like command indirection!

Two new commands which have been added are SET and GET. These control local environment variables.

The old commands and the old ENV: assignments still exist but are now used exclusively for global variables. This means they can be shared between Shells; local variables cannot.

If you are using AmigaDOS 2, you might like to try setting two variables like this:

```
1>SET COM DIR
1>SET DIR SYS:
```

and using them like this:

```
1>DIR $DIR
1>$COM SYS:
1>$COM $DIR
1>ECHO "The command is $COM↵
$DIR!"
```

Using SET without arguments shows the current local variables – including the status of some system variables, viz:

```
1>SET
COM        DIR
DIR SYS:
Kickstart  37.175
Process    1
RC  0
Result2    0
Workbench            36.67
```

> **"AmigaDOS 2 is something special. It's full of features you only come across by experiment."**

The Workbench and Kickstart version numbers are not very interesting – but the RC and Result2 variables are. These variables have been around for a while controlling the AmigaDOS errors but have never been made public; only RC has been available to programmers. RC is the error return code used mainly by the scripting language where: 0=OK; 5=WARN; 10=ERROR; 20=FAIL. Result2 is normally passed to the FAULT and WHY commands to report what went wrong. RC is now available through the PROMPT command by using the new %R substitution which is very useful for developing scripts.

## GRAND FINALE

AmigaDOS 2 is something special – it's full of little undocumented features which you only come across by experiment. Here's another one which appears in the manual but isn't well documented; the backward apostrophe or `. This forces AmigaDOS to execute a command within a string like this:

```
1>ECHO "The date and time↵
are `DATE`"
The date and time are Friday
22-Nov-91 13:20:22
```

Local environment variables are expanded before this takes place, so that you can even do tricks like this:

```
1>SET Command DATE
1>ECHO "The date and time↵
are `$Command`"
The date and time are Friday
22-Nov-91 13:20:22
```

- On UK keyboards the back apostrophe can be accessed by pressing ALT+'. The apostrophe is on the grey key between TAB and ESC.

## GOTTA PROBLEM JOHN?

If you get stuck with AmigaDOS or there is anything specific you would like to see covered here, drop a line detailing your conundrum to: Mark Smiddy, *Amiga Shopper*, 30 Monmouth St, Bath, BA1 2BW.

Sorry, no personal correspondence can be entered into. Desperate people, with no regard for telephone bills, can EMail me on CIX "SMIDOID" or find me lurking in the *Amiga Shopper* conference. AS

## COMING SOON

**This feature was just an introduction to the new features in AmigaDOS 2; something to whet your appetite – I haven't even covered most of the extra commands yet! Next month sees a return to the normal format for these pages. If you want to see more on AmigaDOS 2, then it's up to you to let us know.**

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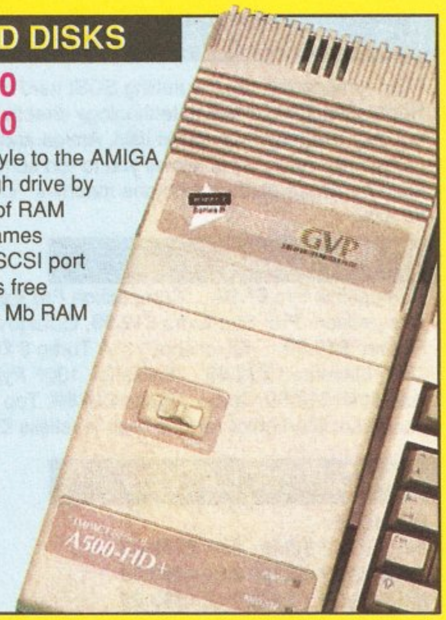
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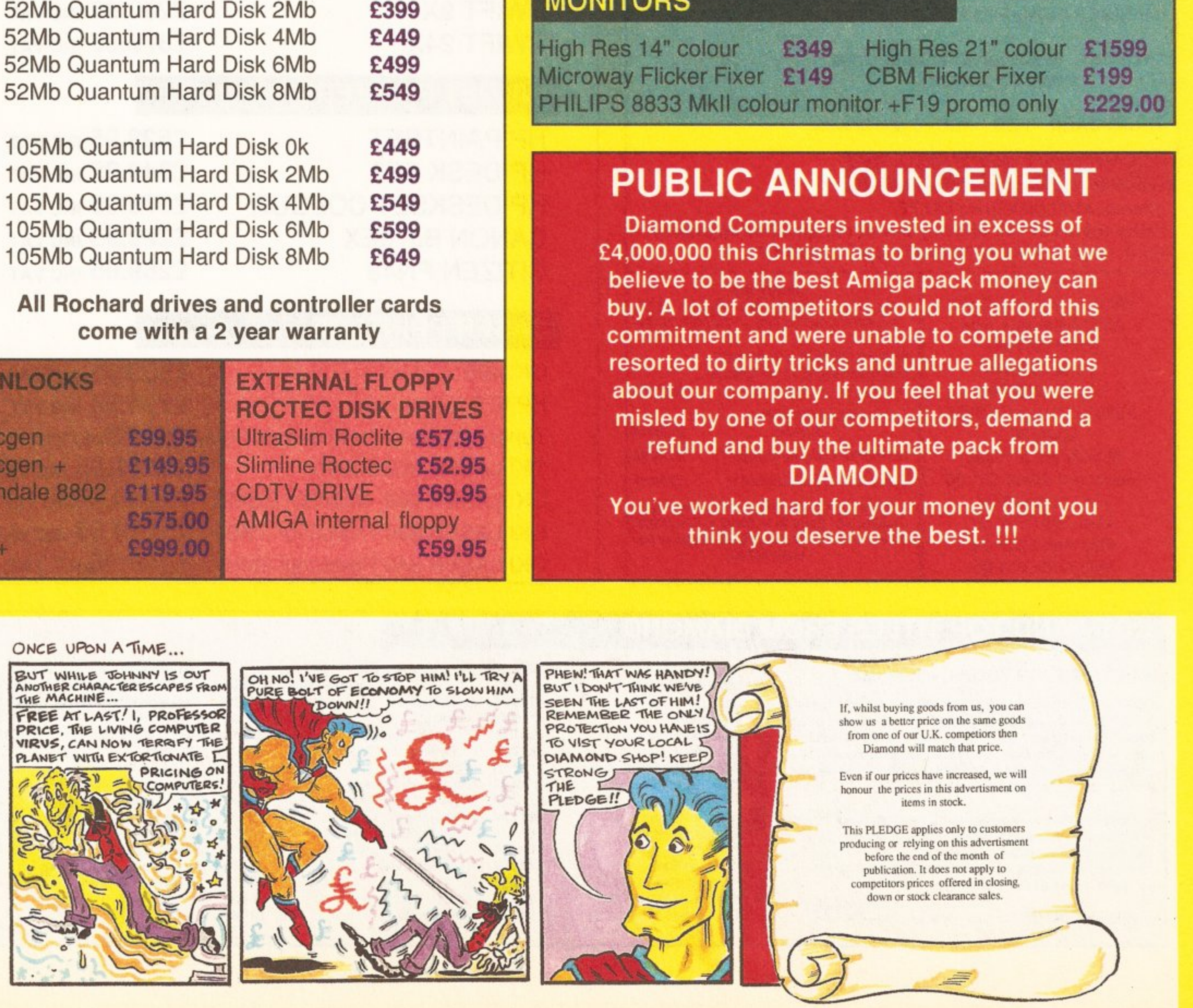
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# Arguing with ARexx

## Paul Overaa provides an introduction to the program bundled with Workbench 2

ARexx (pronounced "AY-REX") is the Amiga version of the REXX programming language, developed over a number of years by Mike Cowlishaw while working at IBM. REXX development started around 1979 but it was not until 1985 that his book (*The REXX Programming language: A Practical Approach to Programming,* published by Prentice Hall) first appeared.

Bill Hawes, the author of such programs as *ConMan* and *WShell*, is responsible for the Amiga version of the language. It was released in 1987, the same year as IBM officially adopted REXX as the standard Procedures Language for its SAA (Systems Application Architecture) operating systems. Since then the general consensus is that Bill Hawe's initial interpretation of the REXX language definition, and the subsequent programming, has been nigh-on faultless. This has resulted in ARexx being one of those rare third party products, the quality of which is such that Commodore has adopted, and endorsed, ARexx by bundling it with Workbench 2.

ARexx is an interpreted (rather than a compiled) language, and programs can be created using any ASCII text editor which you have (ED, memacs etc). ARexx's syntax is easily learned. In some ways it's like Basic, providing statements for flow control (including loops, if-then-else and case selection) and it supports the usual types of string operations such as concatenation.

The similarity with Basic is easily shown: If you wanted to use Basic to ask a user for his name and collect it in a string variable, you might write something along the lines of...

```
print "Please enter ↵
your name"
input name$
```

ARexx programs *have* to start with a comment line so the equivalent in ARexx would look like this...

```
/* A simple ARexx ↵
program */
say 'Please enter ↵
your name'
pull name
```

One interesting thing about ARexx is that the variables are 'typeless' – variable types do not have to be declared, as all variables are regarded as strings and the evaluation of these depends on the context in which they are used. If you wrote the ARexx statements...

```
say 12+22
```

ARexx would know that it was dealing with numbers and would provide 34 as the answer. Similarly the statement...

```
say 12*7
```

would produce a result of 84.

If you wished to write an ARexx program that converted weeks into days it could be done like this...

```
/* Calculate days from ↵
   weeks */
   say 'How many weeks'
   pull weeks
   say 'This corresponds ↵
   to ' weeks*7 ' days'
```

ARexx provides the usual arithmetic, logical and operand comparison operations and as well as simple variables it provides 'compound variables' which implement arrays and other data structures. The language includes a robust error-trapping mechanism and in-built tracing/debugging options which allow tracing of commands, errors, labels, results etc. It offers single stepping 'interactive' tracing, and supports the use of a separate trace window, the 'Global Tracing Console,' so it is possible to keep trace messages away from normal program input/output. ARexx also provides 'procedures' (functions with their own local variables), allows recursion and even offers an 'interpret' instruction letting ARexx programs evaluate incoming ARexx expressions dynamically.



"Now that Commodore has officially endorsed ARexx, it looks set for a bright future. Make sure you're in the know by reading my introduction to ARexx..."
**Paul Overaa**

Because ARexx provides links into AmigaDOS, one immediate use of the language is to create DOS scripts which are more powerful than those written using AmigaDOS's script facilities. When ARexx is installed (usually at Boot time) a program called the 'ARexx resident process' is set up to run as a background process. An additional program, called RX, enables ARexx programs to run from an AmigaDOS shell and this program allows interactive (direct) commands and pre-written scripts to be executed.

The command...

```
1> rx myscript
```

for instance, would execute an ARexx script called 'myscript'.

If you think we are dealing with a language which is purely a Basic lookalike, it is worth pointing out that ARexx sets its sights higher than these introductory examples suggest. It does for instance also include in-built functions which can be used for searching the Amiga's system lists, for reading from (and writing to) memory, and even suspending multi-tasking. Such tricks are only the beginning of the story...

### WHERE AREXX REALLY SCORES...

One of ARexx's most unusual characteristics is its behaviour when handling program statements which have no meaning to ARexx itself. When ARexx finds one, it automatically assumes that it is a command intended for another

### ARexx programs – what they look like...

Here's a short example taken from the examples directory of the ARexx distribution disk. It starts by turning on tracing and error trapping, displays a sign-on message and illustrates some uses of ARexx's loops and parse instructions. The loops in the program should be quite easy to follow, but a few words on the parse instruction are in order. Parse instructions consist of three parts - PARSE keyword, parse string (which identifies the source string to be analysed), and template which identifies how the source string is going to be parsed or 'split up'. Input sources are specified by additional keywords - ARG, for example, retrieves argument strings supplied when the program was invoked. Here's the example...

```
/* an REXX program,they begin with /* */  */
trace r          /*turn on tracing*/
signal on syntax /*turn on error trapping   */
start:
say 'Hello World'/*so much for formalities*/
/*some examples of the PARSE instruction*/
arg argstr .
parse version name version cpu mpu video .
parse source all
parse numeric digits fuzz form
parse value '123xx45..99' with
/*continuation*/,
      x 'xx' y '.' 8 z . , all
say x y z
old = trace('I')     /*trace INTERMEDIATES*/
ans = (5+(4+(3+(2+1)*3)*4)*5)
call trace old       /*restore trace option */
do i = 1 to 10 while i<6
/* a sample loop using WHILE       */
   say i i**2
   end
drop i j           /*reset the variables */
do i=1 to 5        /*List some error messages */
   say i errortext(i)
   end
exit 10            /*exit with a return code */
syntax: say 'error' rc 'in line' sigl
   exit rc
novalue: say 'uninitialized value at' sigl
   exit 10
```

application and duly transmits it via a special command interface.

In essence the command gets sent to some other 'host' program, the destination of which is determined by specifying a current host address (the name of a public message port managed by the host application). The default address is "REXX" but this can be over-ridden when a program is invoked.

Those of you lucky enough to have Workbench 2 will have already seen the 'rexxmast' command in the startup script. One of the things this program does is to set up the REXX message port. This provides the default communications channel.

One special host address, called COMMAND, indicates that the command should be passed to the underlying DOS (AmigaDOS in the case of the Amiga). If a user typed...

```
1> rx "address ↵
command 'list'"
```

ARexx would pass the list command to AmigaDOS which would reply with the expected file/directory details. If the user mistakenly had typed...

```
1> rx list
```

then ARexx would have gone looking for a script file called list to execute (and would complain when it wasn't found). Now admittedly none of this may seem exciting but the situation changes when other programs become involved in the communications scenario: If another program has previously announced its ability to receive ARexx commands then the program receiving the ARexx command will interpret it, carry out whatever actions are necessary, and may even transmit a message back to the sending program to enable it to determine whether or not the command was executed successfully. On the multi-tasking Amiga, all of this is achieved with the help of Exec's message system.

When we get into this area of ARexx it is important to understand that most of the facilities which users associate with this aspect of ARexx use are *not* actually ARexx commands – they involve commands which form part of the ARexx interface. Superbase Professional's DML language, for instance, has an extended ARexx CALL command which looks like this...

```
CALL port EXECUTE ↵
string-expression
```

This can be used from within a DML program to transmit a command string to some other ARexx compatible program. The important thing is that the CALL/EXECUTE keywords are *not* part of the ARexx language – the format of the CALL instruction has been devised by the programmers who wrote SuperBase. It should be obvious that the commands sent to other applications programs should be recognisable to the target program, so the syntax of the target program's ARexx interface is important.

The average ARexx user then, from the point of view of inter-program communications, will be as much concerned with syntax requirements of the various ARexx oriented applications programs as with the syntax of the ARexx language. This deep applications program involvement means that the success of inter-program ARexx is linked as much to the applications programs as to ARexx itself. What ARexx has done is to provide a standardised framework enabling programs to talk to each other.

In theory the availability of this framework means that all programs which support the ARexx interface will be able to communicate using roughly the same core language coupled with any interface-specific extensions required. Scripts, macros and fully fledged ARexx programs therefore will have many common features and this will bring a number of additional advantages (namely reduced programming effort and, to some extent, increased portability).

The potential usefulness of the ARexx interface originally depended on whether software houses would decide to endorse the language by writing ARexx interfaces to their own products. Many did and the way in which ARexx quietly snowballed is now history: *AmigaTex* (Radical Eye Software), *TxEd-Plus* (Microsmiths), *Cygnus Ed*, *CAPE 68K* (Inovatronics), *MicroFiche Filer Plus*, and *WShell* were some of the first packages to provide ARexx support. Then came Precision Software which provided ARexx facilities for *Superbase Professional* and Lattice/SAS which added its support by providing ARexx hooks on the *LSE* editor package. A vast collection of ARexx compatible software followed including New Horizon's *Pro-Write*, Oxxi's *A-Talk III*, ASDG's *Art Department Professional*, Blue Ribbon SoundWork's *Bars & Pipes Professional*, Inovatronic's *CanDo*, Gold Disk's *HyperBook* and Commodore's own *AmigaVision* program. Commodore has been actively encouraging this trend for quite a while. Its latest move, which has placed ARexx firmly under the Workbench 2 system software umbrella, now guarantees ARexx maximum user exposure, and a permanent future. Now that ARexx has become a high-profile Amiga 'buzzword', users are beginning to ask where they can get more information. The following details should put you on the right track...

## DOCUMENTATION

Firstly you don't need to be a Workbench 2 user to run ARexx – it is possible to buy it as a separate package. There are advantages to doing this anyway (even for A3000 users) because at the moment Workbench 2 users still only get the minimal ARexx support, namely the rexxmast program, the associated run-time libraries, and some cut-down documentation. Buy ARexx separately and you will get quite a bit more... namely full documentation, the supporting header files, run-time and link-time libraries, utilities, and plenty of example ARexx programs. The ARexx package does incidentally include developers' information for the design and implementation of ARexx interfaces. Be warned however that this particular area of the documentation is quite complex and will only be of interest to programmers who are already Amiga system proficient!

ARexx comes supplied on a single disk together with an excellent manual. The technical content is sufficient to let competent C or 68K assembler programmers write ARexx controller interfaces for their own programs but I think that it's fair to say that newcomers to the Amiga would be intimidated by some of the more technical material that Bill Hawes has provided. For more details about the full ARexx package you need to contact The Amiga Centre Scotland.

## TUTORIAL HELP

The official ARexx manual explains about the ARexx language but does not provide any tutorial help in using the number of ARexx compatible programs available. The best book I've come across is the new Abacus book, written by Chris Zamara and Nick Sullivan, called *Using ARexx on The Amiga*. This deals with the ARexx system and its installation, covers ARexx programming in detail, explains about ARexx's external control facilities, and provides a lot of helpful product-specific info. It also includes a useful ARexx reference section. The price may vary as it is imported, although the cheapest source I've found to date is DTBS Books (the ARexx book includes a disk containing all the scripts mentioned in the text with ARexx compatible programs and utilities). AS

## SHOPPING LIST

**ARexx..........................£39**
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**Using ARexx on the Amiga...£29.95 (inc disk)**
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**The Rexx ....................£40.65**
**Programming Language: A Practical Approach to Programming**
Published by
Prentice Hall

## Public Domain ARexx Code

One of the best sources of public domain ARexx material are the Fish disks. Here are details of some existing ARexx goodies...

**RexxLib** **Fish 463**
A shared library for adding an ARexx implementation to any program in a memory-efficient manner.

**ExecRexx** **Fish 463**
A program that turns an ARexx script into an executable file which can be run from the Workench or the CLI.

**Rxgen** **Fish 459**
An ARexx library by Francois Rouaix enabling you to call any function of almost any Amiga library from an ARexx program.

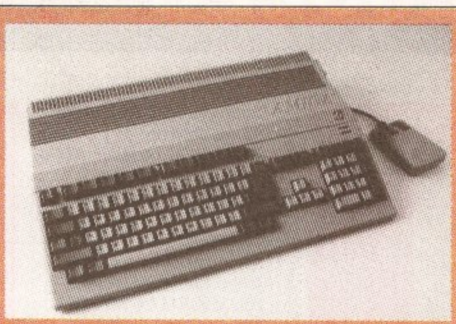
**MinRexx** **Fish 450**
A straightforward ARexx interface, by T. Rokicki. Can be easily patched into most applications programs.

**RexxIntuition** **Fish 463**
An ARexx function library enabling you to open windows/screens from an ARexx script, attach menus, gadgets, requesters, load and save ILBM picture files, auto-requesters, print text and graphic dumps. Adds the Amiga features which ARexx lacks.

**RexxPlPlot** **Fish 306**
A library of C functions for scientific plotting on the Amiga. Offers contour plotting, 3D plotting, axis redefinition, log-log plotting etc. Plots can be displayed on a monitor or sent to a graphics file for printing. Provides an ARexx interface, support for IFF and PostScript output.

**DevKit** **Fish 297**
A collection of C and ARexx language programs by Peter Cherna to facilitate the software development process – includes source.

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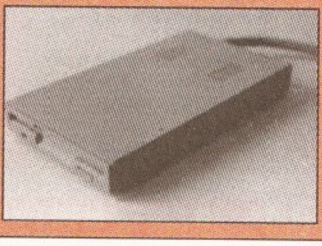
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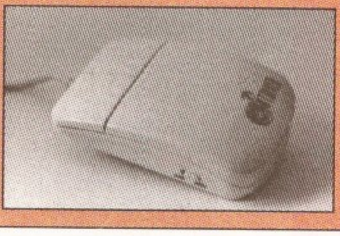
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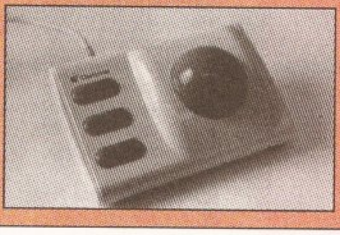
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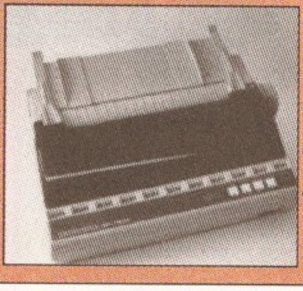


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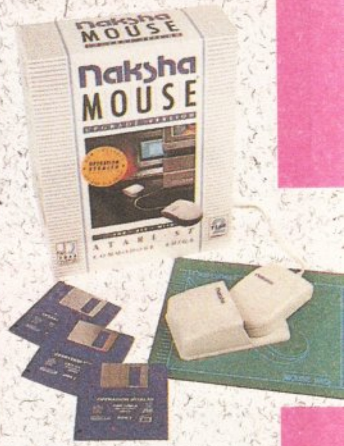
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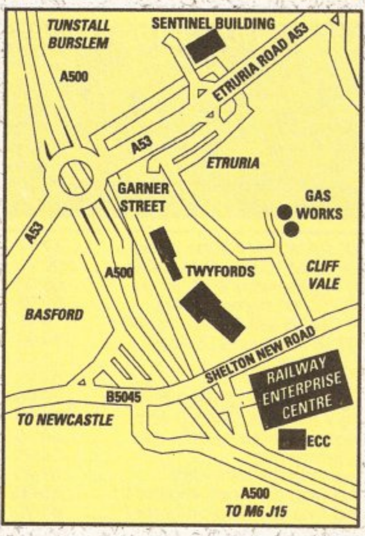
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# AMOS action

**This month AMOS chief Phil South looks into CText and SpriteX, crunches some more AMAL, and boots up the first Totally AMOS Disk magazine**

A month is a long time in AMOS, and this month was no exception. All the time I've being hearing about AMOS in the most odd places, but the best news is that AMOS is making inroads into the USA.

You've guessed it, our colonial cousins are finally getting a taste of the AMOS brand of special relationship. The programs can all run in NTSC, so it's weird that nobody's taken it up before now. But the strange thing is that in the last issue of *Amazing Computing* in a reply to a letter to the editor, the usually sharp Don Hicks refers to AMOS as "a language used for programming games". All I can say is, sort it out, Don! AMOS can program *anything*, not just games. Boy, have they got a long way to go over there.

Anyway, whizzing back to the UK, I've seen a lot of very good AMOS software, not least of which are *SpriteX* and *CText*. Both of these are from Deja Vu Software.

## INVESTIGATING CTEXT

*CText* stands for Colour Text. It is an extension to the AMOS language which enables you to use icon bank based fonts. These can be drawn in up to 64 colours using any Amiga paint program, and can be displayed on the screen using proportional spacing and even kerning.

*CText* Fonts are loaded in as icon banks, and once loaded don't need to be loaded again when they're needed.

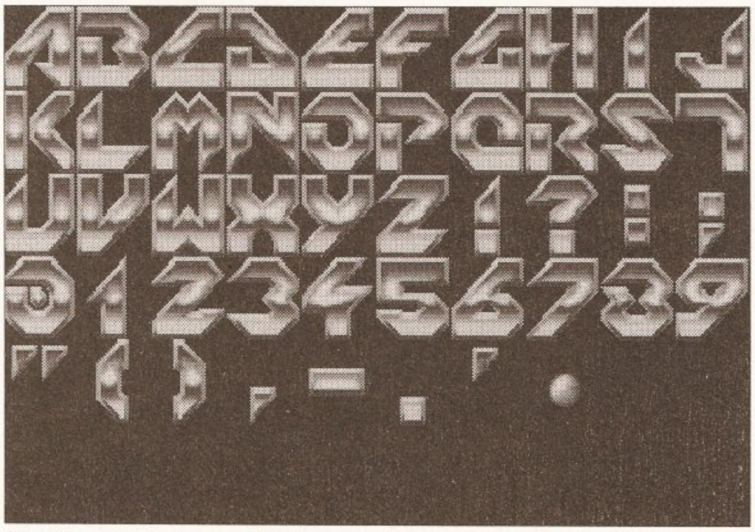
In an AMOS environment, *CText* works exactly the same way as the TEXT command, and in fact displays faster than using TEXT with a disk based font. On the *CText* disk, you have 2 versions of the *CText* extension, one for AMOS 1.23 and one for 1.3, the compiler version of AMOS. These are installed with an AMOS program called CText_INSTALL.AMOS, which you run. There are also 2 versions of the FONT_SETTER.AMOS program, which is used to set up your *Ctext* fonts for use. Also on the disk are a couple of demos for you to run and examine, and a few fonts for you to try out.

All of the programs on *CText* come in two forms, for 1.23 and 1.3 of AMOS, and this is because the extension systems for these versions of AMOS are slightly different, and require slightly different versions of the *CText* program.

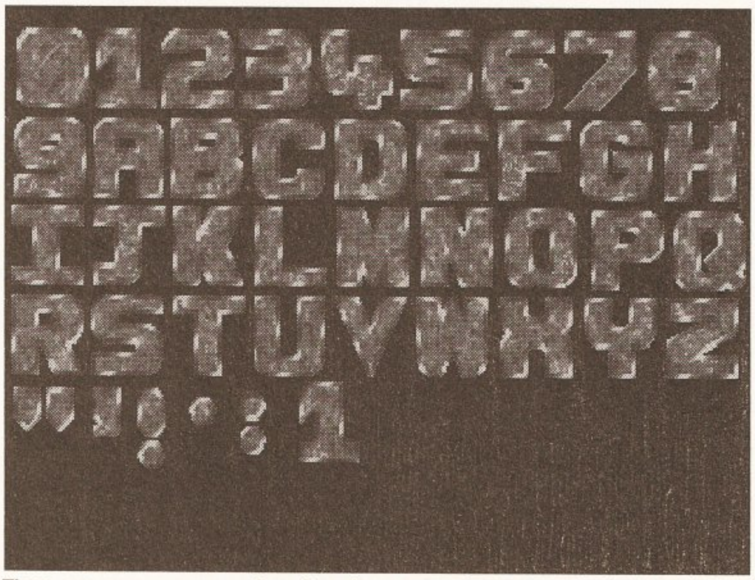
## USING CTEXT

*CText* is designed to be used as a replacement to the TEXT command in AMOS. Instead of using the usual methods of getting coloured text, that is to say IFF fonts, it uses an ICON bank (Bank Swapped to Bank 10) to store all the characters, and a small 768 byte data table to show which Icon to use for each of the 256 characters, and the width and the baseline of each character (for proportional spacing mode). If you're only using non-proportional text with a set width and baseline, then bytes 2 & 3 are ignored.

One of *CText*'s neat tricks though, is that you can assign the same icon to several characters. So it is possible to save some memory.



**CText is a doddle to use. What's more, the possibilities are endless. Font descriptions are limited only by your imagination...**



**There are, as you can see from the above examples, no restrictions on bitplane or size. No restrictions on colour either, but you can't see that here!**

## BANKING ON CTEXT

*CText* requires its icons in Bank 10, so normally you would load them into Bank 2 as normal, using NO ICON MASK or MAKE ICON MASK as required (choosing whether the text will erase the background beneath it or be overlayed on top of it) and then use the BANK SWAP command to swap them into bank 10, like so:

```
Bank Swap 2,10
```



**"Welcome to the AMOS column, the place where every month you can find tutorials and lots of hints and tips for use with Mandarin Software's AMOS BASIC interpreter."**
**Phil South**

The only other thing you have to load for the font is the 768 byte font data table:

```
Bload "afont.abk.CFNT",↵
font data
```

The Fontsetter program always saves the font data as the name of the icon bank with a ".CFNT" on the end.

This routine will load a *CText* font into memory.

```
F$="Bigfont"
Rem F$=Font name
Load F$+".abk"
Rem Fontname.abk must be an ↵
icon bank
Make Icon Mask : Rem you ↵
can use NO ICON MASK if you ↵
don't want masking
Bank Swap 2,10
Bload F$+".abk.cfnt",font ↵
data
Rem this loads the ↵
font settings
```

Once everything is loaded, you then have some new commands to use in your AMOS programs.

```
Font Size x,y
```

This sets up the width and baseline of the font. If zero is used in X or Y, then the relevant width or baseline table will be used from the data area, eg

```
Font Size 32,16:
```

All characters 32 width, 16 baseline

```
Font Size 0,16:
```

Use Proportional width, but fixed 16 pixel baseline

# USING AMAL PART 4

This month we'll be looking at sprite animation using AMAL. The main strength of AMAL commands over the regular AMOS commands is that they are compiled, and so run much faster than the equivalent regular strength commands. They are the perfect way to animate sprites.

## • SPRITE MOVEMENT

We've discussed the Move command before but to recap, all AMAL commands are single letter commands, and Move is shortened to an M. To move a sprite you use:

```
M w,h,n
```

where w is equal to the amount of pixels to the right, h to the amount of pixels down and n equals the speed of the move. So for example:

```
M 75,75,100
```

is a fairly slow move 75 pixels to the right and down, so if the sprite started at 100,100 it would end up at 175,175. If you then did a move like this:

```
M 0,-75,20
```

this would be a very fast move straight up. Negative values of w and h will give you moves to the left and up, so the sprite would now be at 175,100. The speed of the move is governed by the n number, ie the amount of steps in the move. With a lot of steps the move will be slow and precise and with very few the move will be fast.

## • SPRITE ANIMATION

Animating sprites is simple in AMAL, but then again this is the AMAL speciality, and the reason why the commands are compiled before runtime. Animation is usually very slow because of the amount of work the computer has to do, but in AMAL the animations run independent of the rest of the AMOS program.

The Anim command is a single letter A, and the format is like this:

```
A n,(x,y)(x,y)...etc
```

where n equals the number of times the animation cycles around, and x,y equal image number and duration. A zero in the number of animation cycles means the animation runs in a loop continuously. So this:

```
A 0,(1,4)(2,4)(3,4)(4,4)(5,4)
```

is a continuous animation with five frames, and each frame duration is 4. The number of the animation frame is the number of the sprite in the sprite bank.

## • AMAL ON

To start your AMAL programs, even if they have been loaded as an .abk file, is to use the AMAL On command. You can specify an AMAL program number like so:

```
Amal On 8
```

or just leave it blank to run all AMAL programs currently resident:

```
Amal On
```

As a default situation, the Amal programs you run affect a hardware sprite with the same number, although this situation can be changed with the Channel command. But in the default situation, this is the way it works:

```
Amal On 8
```

activates an animation involving hardware sprite 8.

## • LABELS AND JUMP

Just like normal AMOS, the AMAL programs can use labels to mark certain points in the program, which can be jumped to using the Jump (or J) command. To set up a label, simply type it in with ":" on the end, like this:

```
Start:
A 0,(1,4)(2,4)(3,4)(4,4)(5,4)
M 0,-75,20
...etc
```

Now at any point in the program you could Jump to that point again using:

```
Jump Start
```

Labels can be anything, but it's the first letter that counts, as in all AMAL operations. So to label the program you might just as well have put:

```
S:
A 0,(1,4)(2,4)(3,4)(4,4)(5,4)
M 0,-75,20
...etc
```

and to jump to that point in the program typed:

```
J S
```

AMAL is a little bit confusing like that. It might look very complicated and high tech to only use the AMAL keywords as single letters, but it helps if you pad them with extra lower case letters to make them more readable. Obviously it's a free country and I can't come round and beat you with a haddock if you don't do this. But that's my advice.

## • PUT IT ALL TOGETHER

And what have you got? A little AMAL program, that's what. Now you can either do the program like this in the AMAL editor on channel 8:

```
Anim 0,(1,3)(2,3)(3,3)(4,3)
Move 0,75,50
Move 75,0,50
Move 0,-75,50
Move -75,0,50
```

being sure to load and position Sprite 8 first of course. (See the section on using the AMAL Editor in AS 8.)

Or you can do it in AMOS itself, like so:

```
Rem ** I'm using the default data files here ↲
for convenience
Load "AMOS_DATA:Sprites/Octopus.abk"
Get Sprite Palette
Sprite 8,100,100,1
M$="Anim 0,(1,3)(2,3)(3,3)(4,3)"
M$=M$+"Move 0,75,50"
M$=M$+"Move 75,0,50"
M$=M$+"Move 0,-75,50"
M$=M$+"Move -75,0,50"
Amal 8,M$ : Amal On 8
```

You can use your own sprites instead of the ones on the disk, but they give you an idea. OK enough AMAL, already. Try those bits for size and next month we'll move on to using variables and more complex loops.

```
Font Size 11,0:
```

Use Fixed 11 pixel width, with proportional baseline

```
Font Size 0,0:
```

Use fully proportional

The command to use the text is the *CText* command, which uses exactly the same parameters as the TEXT command, so you can simply change all your TEXT commands to *CText*, and your programs will run as normal. Like so:

```
CText x,y,string$
```

## MAKING A CTEXT FONT

*CText* fonts are very easy to make. First you need a bank of icons, each icon being a character that you want in the font. There are already a number of disks in the public domain which contain colour fonts as IFF files. And the beauty of it is that there are no colour, bitplane or size restrictions, so if AMOS can display the IFF file, *CText* can display the font.

You create a font by placing all the characters on to an IFF screen in rows, like this:

A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z etc

**BLITS**

*True ease in writing comes from art, not chance,*
*As those move easiest who have learn'd to dance.*
*Alexander Pope*
*An Essay on Criticism*

**& BOBS**

making sure that there are spaces between all the characters. Then save the screen as an IFF file.

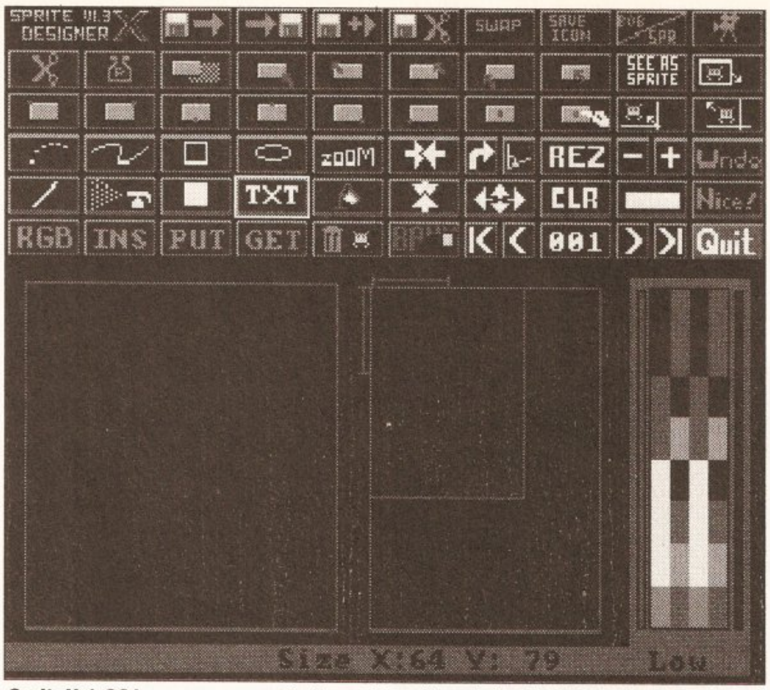
Load up *SpriteX* and cut out the characters as sprites, using the built-in sprite grabber.

Once you have cut them out, you go through the bank with Auto scrunch on, to eliminate any waste space. (Newer versions of *SpriteX* enable you to press the Z key to do this automatically.) Once you've done this and you're happy with the font, hit the SWAP button on the top row, so that the sprite bank becomes an icon bank.

## FIXING THAT FONT

After that you need to use the FONT FIXER program. This utility is used to assign icons to ASCII characters as well as widths and baselines.

By clicking on any of the ASCII




*SpriteX 1.32* **has many more features than the original AMOS Sprite Editor. Paint programs have had a strong influence on the control panel**

characters listed, the image used for it will appear in the left hand editing box at the bottom of the screen.

You can use the left mouse button to drag the baseline/width lines around this character, or click with the right button to automatically set the width as the width of the icon + 2 pixels and the baseline to the bottom of the icon. Clicking on the ASCII characters with the Right button will store the icon shown in the right hand box to that character.

As you can see it's all a piece of cake, and I can highly recommend this program to anyone who's serious about AMOS programming.

## DON'T FORGET

**The AMOS conference on CIX, which has bundles of programs and bags of hints and tips for all AMOS users. Join CIX by dialling its voice line and asking for details on 081 390 8446, or just log on to 081 390 1244 and have your credit card ready.**

The flexibility and speed of the system is such that I can't see anyone using those old IFF font routines ever again. But to get the most out of *CText*, you really need to use *SpriteX*, and as luck would have it there's a new version of that out as well.

## SPRITEX 1.32

*SpriteX* is a modified version of the original AMOS *Sprite Editor*, with many more features. As well as the world's best AMOS sprite creator, as a bonus on the disk are the *Rem Maker* (to design fancy Rem statements), and a pair of "10 Liner" games, *Logger Larry* and *Ping*. Why 10 Liner's? Well they're only 10 lines of code, that's why.

The *SpriteX* editor is designed for drawing AMOS Bobs, Sprites and icons. Any images designed in *SpriteX* are stored in a bank, ready to use as Bobs by AMOS. To use them as icons, you just hit the SWAP button on the top line of icons to swap them into the icon bank, and then hit the SAVE as ICONS button.

The editor is very easy to use, and borrows much of its functionality from paint programs. For example two icons to the top left of the screen enable you to cut out an area from the zoomed sprite, and then paste it elsewhere in the sprite. When Cut is selected, you click on the zoomed area and drag the cut area to size. The program will then use this cut area as a brush. Clicking on Paste will allow you to go back to using this brush while you are in the editor.

## THE SPRITE BANK

A series of icons at the bottom of the screen are tools to help you move sprites to and from the sprite bank. An RGB button allows you to change the values of the colours being used. Other tools which spring to mind include:

- Insert Sprite
- Put Sprite
- Get Sprite
- Delete Sprite
- Erase Bank

As well as being able to draw your sprites from scratch, you can also grab them from an IFF file, as you would to use a font in *CText*. To do this, use the extra module called *GrabberX*.

## THE GREAT GRABBERX

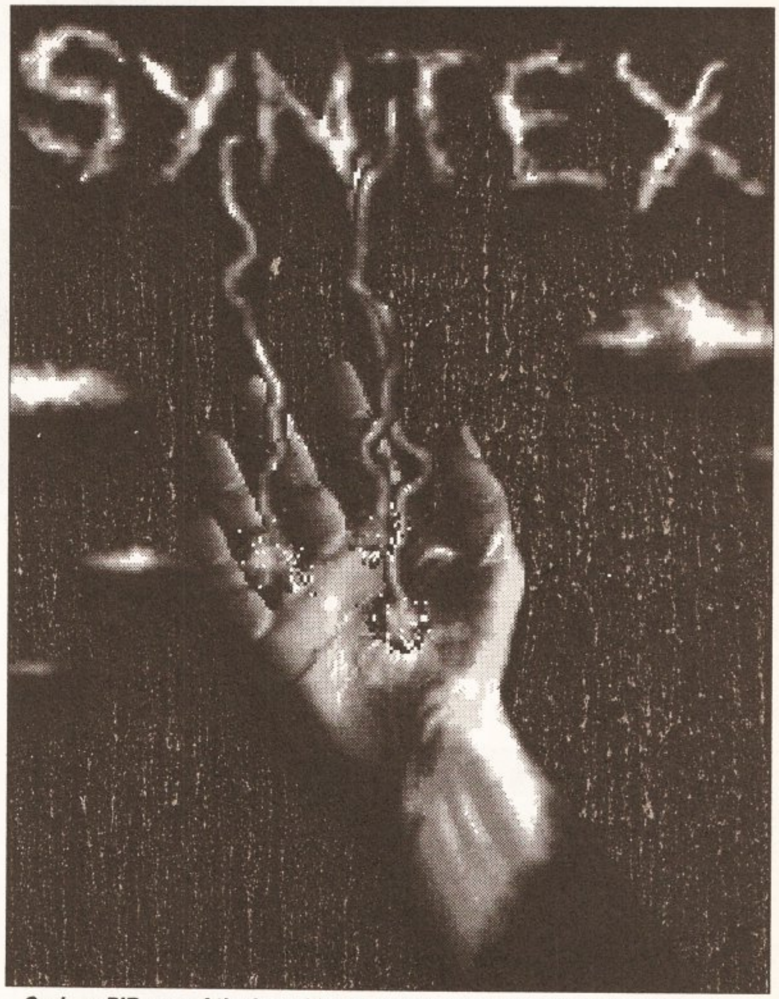
*GrabberX* is a development of the original *Sprite Grabber*, first supplied as a separate program to the main *SpriteX*, and later included in Version 1.0. *GrabberX* now has an extra function called Line Grab.

For those of you who haven't used the sprite grabber before, *GrabberX* is for grabbing images from IFF or AMOS style Spacked pictures to be used as Bobs or icons. This is done by loading in the picture, clicking on the scissors or "cut" button, and then marking the area to cut. For most images, it is best to mark an area larger than the area you want, and then optimise it in the main menu to chop out the unwanted space. For some images, such as ones too large to be edited, you can use the arrow keys to fine tune the grabbing area.

If you press the up/down arrow keys, you can control the icon bar up and down the screen so that you can view and grab different and larger areas. Clicking on the Cut icon will grab a single image and store it in the sprite bank at the current location, which one is changed by the arrow buttons. Clicking on the Cut Line icon will enable you to grab a row of images in one go. This is especially useful when using *SpriteX* in conjunction with *CText*, as you can grab most of an alphabet on one line. The only rule with this function is that the images must have at least a one pixel gap between them. You simply move the box over the area you want to grab and *GrabberX* will grab the whole area and split it horizontally into separate images.

## TESTING ANIMATIONS

And finally, there is a means of testing sprite animations using the ANIMX module. The ANIMX animation tester is designed to enable you to test out your Bobs to make sure that they are animating properly. You can animate up to 16 Bobs over 51 frames. To use ANIMX, you control the Frame Number, Bob Number and Image number for each bob with the 3 controllers at the top of the screen. The Button at the bottom left, allows you to load in a background screen to animate the Bobs over, and there are 4 more control buttons:




***Cyclone PIB*, one of the best Of the Syntex demos around at the moment. Proving that AMOS based PD software can keep up with the competition**

• Wipe:
Clears all the animation, so you can restart.

• INS:
Inserts a gap in the animation, so that you can insert a frame.

• ->
<-
Plays the animation to the last frame, and then plays it backwards to the first.

• ->
Plays the animation to the last frame, and then jumps back to the first. Clicking on either the Ping Pong or Play buttons will also stop the animation.

As with *GrabberX*, the control bar can be moved up and down with the cursor keys.

## CONCLUSION

It's all very easy and if you don't already use the *SpriteX* and *CText* programs you'll wonder how you ever did without them. The programming for *SpriteX* and *CText* was done by Aaron Fothergill, the graphics for SpriteX were by Adam Fothergill, and the Fast Zoom routine used in *SpriteX* was apparently written by Francois Lionet, the author of AMOS!

Get these programs for your AMOS system, or you'll be sorry. The programs are licenseware, and available cheaply from Deja Vu Professional Licensed Software.

## TOTAL AMOS

There's a new disk magazine in town, and this time it's totally dedicated to AMOS.

The *Totally AMOS* disk magazine is produced by Len and Anne Tucker and is the first and only AMOS magazine on disk. This first edition, number 0, is being distributed via the public domain so that everyone can see what *Totally Amos* is doing.

*Totally Amos* isn't a club or anything, and so they don't ask for a membership fee or anything like that for the many services they provide in the magazine.

What the magazine aims to do is "to create a friendly environment where everybody can take part, whether giving help to other programmers, or by asking for help with their own problems". Very admirable, to be sure.

The magazine is organised and even programmed using AMOS, and the articles and pieces of code/art/music are spooled together using a specially written reader program, which gives you access to all areas of the magazine using an original hypertext type format.

You can read the articles, play music, look at graphics and animations, just by clicking the mouse.

As a magazine, *Totally Amos* is being aimed mostly at the beginners' end of things, although the editors do hope that there will be enough skilled contributors to the mag to compile a magazine which will be interesting for everyone, whatever their level.

There will be articles from many well known names on the AMOS scene: Sandra Sharkey has written an article about Licenseware in her column, Sandra's Space, and future issues will include contributions from AMOS heads such as Peter Hickman, Aaron Fothergill, Phil South... hey, who's he?

And of course *you*, the reader, can have an input as well. Yes, if you are interested in the following:

- Articles on programming
- Your reviews of programs
- Hints & Tips
- For Sale
- Program routines
- Graphics
- Music files
- Sound samples

why not get hold of the PD issue of *Totally AMOS* and then subscribe *and* contribute. The intention is to produce an issue of *Totally AMOS* once every two months (which would be starting from November 1991).

Each issue costs £2.50 and will be available direct from the publishers. If you would like to have a subscription for the magazine, then you can do this for 6 issues at a time. Therefore, for £15 you would get six issues without having to remember the date of the next issue.

For more information contact:
*Totally AMOS*
c/o Len & Anne Tucker
1 Penmynydd Road
Penlan
Swansea SA5 7EH.

## AMOS PD SCENE

There's a lot of good stuff around in the world of AMOS based PD software. My favourite pair of demos are, predictably, by Syntex, the best AMOS crew around at the moment, and they are *Judgement Day* (APD 338) and *Cyclone PIB* (APD 339).

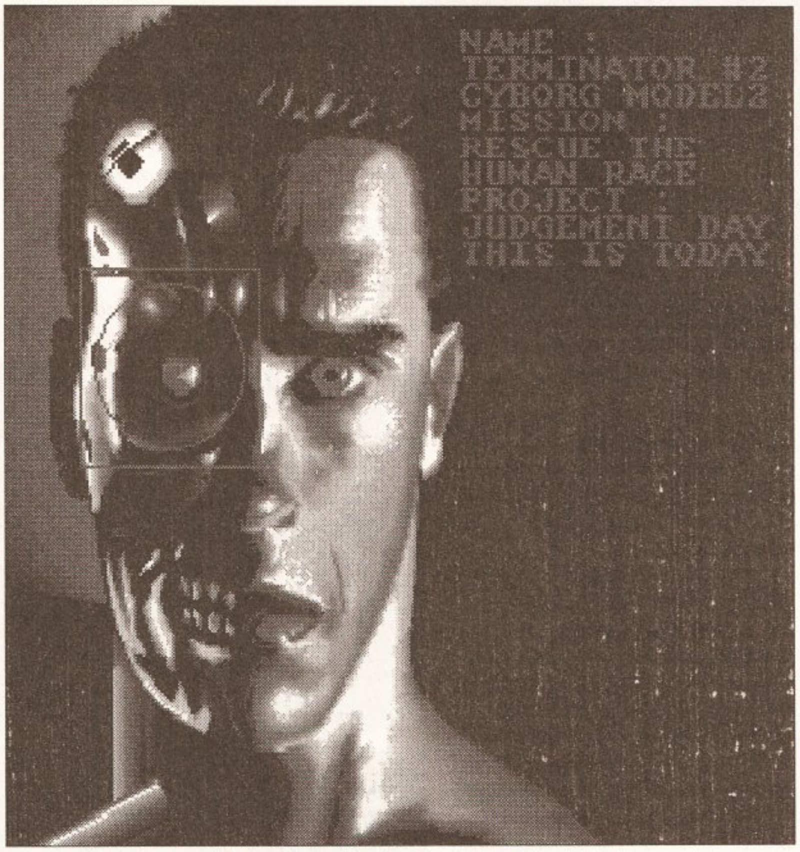
The two demos are fantastic in their skill of execution, although Syntex always compile their stuff so you can't see how it's done. Unfortunately, they also resort to other cute tricks like adding zillions of identically named directories on the disk, so you can't even list the files, let alone examine them. But apart from that the disks are good value all in all.

Also worth a mention is a new British crew called Blade Runners, whose demo *Beer Mania* (APD 273) is listable and has some very clever effects, like text scrolling diagonally! Worth a look for the interesting programming skills.

Finally the *Fanatix Music disks 1* and *2* (APD 239 and 240) are worth a listen, as they've come up with some great music, all of which is stored as .abk music files. There is a player on the disk, but you can load and run them within your own programs.

## TIME TO GO

That's all we have time for. Join me next issue for more AMOS action and AMAL lessons. See you then! AS




**Syntex's *Judgement Day* – According to the demo, today is judgement day, so judge the power of Amos for yourselves!**

## AMOS HINTS AND TIPS

**• It's a funny thing but when you come to unfold procedures in certain programs they won't open, and the editor comes up with the error message about your buffer not being big enough. Darn it.**

**The solution is to run your Config1_3.AMOS and increase the buffer size to suitably enormous proportions. Et voila! You can now open the PROCs and look at their code. Heh heh heh...**

---

Every month I will be printing AMOS hints and programs from my own sources and from you the readers. If you have any hints and tips (preferably accompanied by your listing on a disk) you want to send me, send them to: Phil South, AMOS Action, Amiga Shopper, 30 Monmouth Street, Bath, Avon, BA1 2BW. Or you can e-mail me on:
**CIX – snouty@cix.compulink.co.uk**
**Telecom Gold – 74:MIK2077**
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PHOENIX

RAM expansions made for the older A500 will not work with the new A500 Plus if they are populated to more than 512k. Phoenix have developed a range of RAM expansion units specifically for the new A500 Plus.

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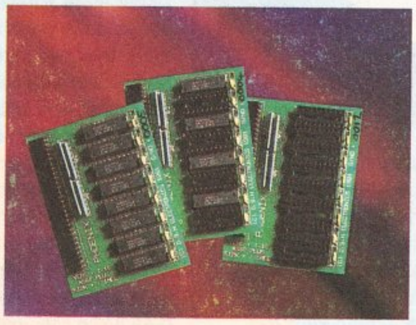
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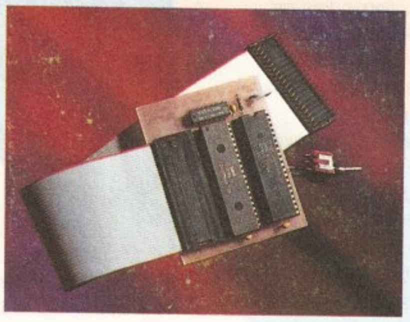
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# On the beaten track



"This month percussion units, drum machines and a whole host of MIDI connection boxes come under the spotlight as we continue on the MIDI trail..."
**Paul Overaa**

## *In the fourth part of his series, Paul Overaa shows you the best route to percussional success*

Percussion, in the musical sense, relates to instruments that are played by hitting them. Percussion instruments therefore include everything from the drums normally found in a drum kit (bass drums, snare drums, cymbals and so on), bongos, tambourines and triangles, right through to the more obscure instruments such as the cabasa and agogo.

I've already talked about the versatility of modern day synthesizers and the fact that they can be programmed to produce all manner of sounds, including those of the percussion instruments. One might think then that creating a drum accompaniment for a song played on a multi-timbral synth just involves selecting suitable drum sound voices. In actual fact it isn't quite that straightforward because, set up in the conventional way, a multi-timbral synth would only be able play one voice group setting per channel. Even if you only wanted a bass drum, a snare drum, open and closed hi-hats, a couple of tom-tom drums and a cymbal (which nowadays would be regarded as a very limited 'drum kit')... you'd use up seven MIDI channels and a large chunk of your multi-timbral capabilities.

The solution to this potential nasty is to use a slightly different arrangement whereby *all* percussion type note-on/note-off events are sent on just one channel with the note value being used to indicate which particular drum/percussion voice should sound.

When you take the hardware that can do this, add some touch-pads which act as drum keys, incorporate memory for storing drum patterns, and finally add some software which permits the creation and editing of all manner of rhythm patterns... you end up with little boxes, called drum machines! (These units have, incidentally, put more than a few 'real drummers' out of work over the last few years).

Drum machines nowadays are rather more sophisticated than the above description might suggest – often they use sampled (ie digitized real percussion sounds) as opposed to synthesized sounds, the pitch and volume of individual drums voices may be altered, and they usually include loads of preset rhythm patterns which can be used as starting points for building up the drum parts for complete songs. MIDI-wise these units will transmit MIDI data when they play and the messages transmitted may include start/stop information, MIDI timing clocks, and the drum-note data itself. Of course the reverse procedure can also apply and if the drum machine is sent the appropriate MIDI data the drum machine will play the appropriate percussion sounds.

The reason I started by mentioning these drum machines is simple: A great many synthesizers, especially those slightly older models, do *not* have any special drum/percussion facilities. Because of this you might, depending on which synthesizer you have, need a drum machine in order to add drum/percussion sounds to your song arrangements.

Newer synthesizers however (especially those such as the Yamaha PSS-590 which are aimed at the lower, mainly non-professional, end of the music market) usually do have special built-in drum/percussion facilities. These invariably include a percussion channel, a set of suitable drum/percussion voices, and preset and user-programmable rhythm patterns. Many such synthesizers include software which can even create the drum accompaniments automatically, although obviously all of these facilities are manufacturer dependent. My concern however is not with the use of the in-built accompaniment facilities as such but with the more general themes associated with the recording, editing and playing back of the associated MIDI percussion data.

### RECORD AND PLAYBACK

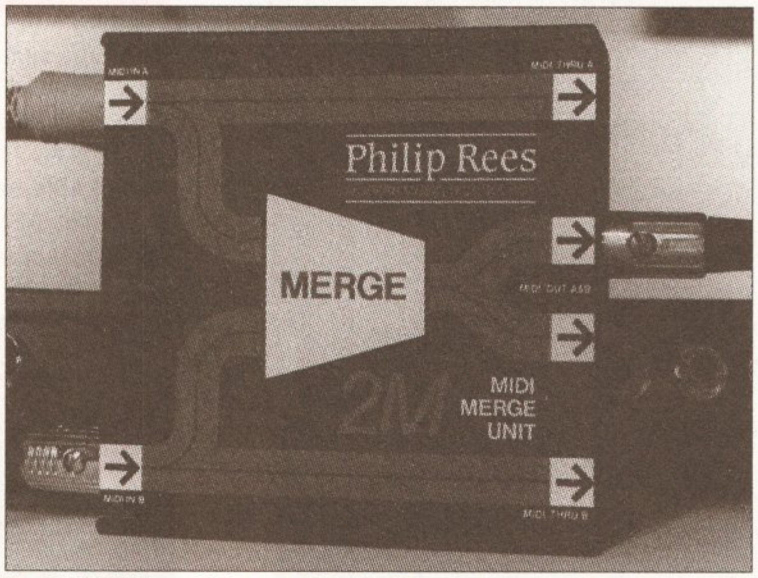
As far as the recording and playing back of percussion tracks is concerned it is much the same as recording or playing back ordinary synthesizer data.You can start the rhythm unit playing and record the MIDI data that is generated at the MIDI OUT terminal. There are however a couple of things that you do have to bear in mind: Firstly, you *must not* transpose drum channel data because specific drums and percussion instruments are represented by particular MIDI notes – change the note values by transposing them and you'll change the actual percussion voice being played. The effect of inadvertently transposing a drum part will, on playback, sound disastrous – recorded bass drums might turn into cymbals, the snare drum might vanish and the overall effect is invariably to make the drum/percussion track sound almost unrecognisable. Obviously it is something easily fixed by re-transposing the data back into its original key (thus restoring the original note values). Some sequencers (Dr T's KCS for instance) allow you to 'protect' a specified MIDI channel from transposition.

This is convenient because it allows you to carry out all normal editing operations (including transposition) knowing that the note values of the drum/percussion data inside your drum tracks will *not* be altered.

The other thing to point out is that drum machines (or integral synthesizer percussion facilities), vary enormously in the number of different percussions sounds they can provide. Unfortunately, at the moment at least, there is very little standardisation between different manufacturers as far as which note numbers represent which drum sounds. The note which on a Yamaha RX21 drum unit plays a crash cymbal will, on a Roland MT32 unit, produce a 'High Bongo' sound.

Fortunately, most companies are at least consistent within the realm of their own products and this, coupled with the fact that the note<—>drum voice correspondences of many percussion units are nowadays user definable anyway, means that most incompatibilities in this particular area are usually easily solved.

As far as creating suitable drum patterns is concerned the situation for the beginner is very good indeed because you can cheat! Firstly, you'll be able to use the rhythm patterns and styles available on the percussion unit iself. Secondly you'll find that local music stores will stock a number of books providing details of popular and useful drum patterns written in a block notation style. More about the books in a moment, but first a few words about these notation schemes...




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| 4/4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bass drum | | | | | | | | | | | | | | | | |

Figure 1

| 4/4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bass | * | | | | * | | | | * | | | | * | | | |

Figure 2

| 4/4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bass | * | | | | | | * | | * | | | | | | | |
| Snare | | | | | * | | | | | | | | * | | | |
| Open HH | | | | | | | | | | | | | | | | * |
| Clsd HH | * | | * | | * | | * | | * | | * | | * | | * | |

Figure 3

| 4/4 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Bass drum | | | | |

Figure 4

## BLOCK STYLE NOTATION

For most people a 'block style' drum notation is far more convenient than having the drum music written in the conventional notation form. Since you can even use it to write down your own drum accompaniment ideas it's useful to go over some typical diagram drum notation... If you saw something like Figure 1, it wouldn't take too long to figure out that it had something with the bass drum part of a 4/4 bar which needs a resolution, ie a quantize level, of 16 to the bar to represent it. If you wanted to signify a bass drum playing straight four's to the bar you could therefore do it by marking the appropriate squares, as in Figure 2.

By specifying the individual drums needed, and combining all of the drums programmed in at a certain quantize level, you could build up a description of a bar, Figure 3.

Having a single table is fine when you're dealing with fairly straighforward patterns but if you're including, some elements of higher resolution stuff, eg quantization at 24'ths or 48'ths for triplets in a 4/4 bar, then the overall table can get a bit unwieldy. The best idea is then to make it a rule to use the least resolution possible for any given drum part. In the above example you'd represent the 2nd and 4th snare drum beat using the form shown in Figure 4.

Since with most percussion units you could set the quantize level to 4 in order to enter these snare beats, the breaking up of the diagram in this way makes it easier to do the programming! The Bass/Snare/Open-HH/Closed-HH example given earlier could therefore be written using the three fragments shown in Figure 5.

Where each fragment relates to one bar of a 4/4 pattern and uses quantize levels of 8, 4, and 16 respectively. Accents, which indicate how hard the 'drums' should be hit, can be added to any given drum voice (or voice group) by adding a similar 'accent' strip, see Figure 6.

On drum machines which allow multi-level accents you could even put an accent-level on the diagram using some suitable numerical value inside the appropriate squares.

These types of schemes make it easy to represent drum patterns of almost any complexity. Better than that... the average drum machine will let you program this type of data using an editing mode usually called 'step time'. The name of this step-by-step pattern creation facility itself doesn't matter – what is important is that it makes it possible for anyone to enter the required pattern data.

The result? Beginners (and competent musicians who are non-drummers) can easily create reasonable rhythm tracks. It is so easy that many MIDI musicians let their percussion unit do the job for them but this 'lazyness' has led to a myth about drum machines that really shoud be dispelled...

## BORING OR WHAT?

It's often said that drum machines tend to produce rather monotonous drum parts. There's no doubt that the average drum machines of a few years ago, with their mediocre sound chips and very limited editing facilities, didn't help stimulate interest in drum programming, but nowadays things have changed and even budget machines like the Yamaha RX8 unit offer good sampled drum sounds which can be tuned, panned, user assigned and generally edited in many ways.

While early drum machines themselves played some role (no pun intended) in the 'monotony syndrome,' it was us the users who created the rest of the 'drum-machine's are boring' myth. Part of the problem is that it is all too easy to build a basic pattern and then duplicate it for the duration of the song. Change a few bars, add a couple of extra toms occasionally and bingo... another drum part has been finished. Most musicians are guilty of that approach at some time, especially when pushed for time.

The big question is.. what can we do about it? Nowadays with good percussion units, sequencers, and a host of MIDI gadgets there is absolutely no reason at all why you can't create drum parts that are really good. I'm not saying you can build yourself an automated Jeff Porcaro (if you can... write and tell me how), but you can certainly make moves in the right direction.

Let's take things right from scratch: To create interesting drum parts you need a source of inspiration. Whether this comes from you, from ideas picked up by watching others, or from books of examples, doesn't really matter as far as the end results go. Many musicians, especially those who have never sat behind a drumkit, say that their drum programming improved mainly by practice and seeing written examples of interesting drum patterns. Which books are best? That depends on whether you read music or not, but for most people the books which aim to teach you to play a real drumkit are not as useful as those which concentrate solely on offering block notation examples. This, as I've already said, is because the block diagrams in most books are easily programmed into the drum machine, so it is very easy to set up the suggested example patterns.

Music Sales Ltd, who distribute the Amsco Publications books, have a couple of drum-machine books by René Pierre Bardet that are worth looking at. One is called *40 Patterns for the Roland Drum Machines* and the other *40 Patterns for the Yamaha, Casio, Korg and Alesis Drum Machines*. Although they are biased towards particular drum machines the patterns themselves are provided in a block form which is easily adapted to virtually all percussion units. You won't, incidentally, need both of them because they deal with similar sets of material – the different formats just make the programming of the different machines easier. At £4.95 you could do a lot worse!

So, assuming (one way or another) that the ideas are there, what else can you do? Mostly it comes down to attention to detail. A common problem is getting the accents right on hi-hat parts. Some accent pads have limited capabilities even though the drum machine is fully velocity sensitive via MIDI! In these cases it's usually best to drive it from a touch sensitive keyboard but you'll find, by experimenting, that a lot can also be done by editing the data using your sequencer.

## TRACK SHIFTING

It's been recognized for some time that if you take a perfectly quantized drum pattern and marginally alter the position of the snare drum, ie pull it

continued on page 119

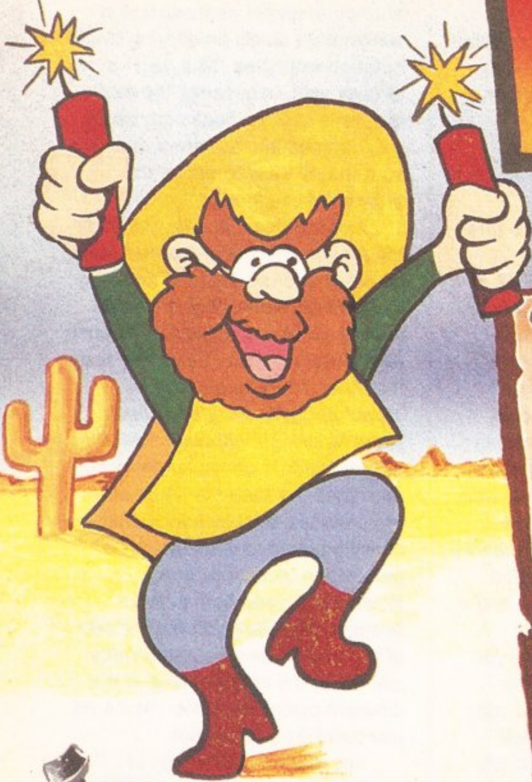
| 4/4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bass | * | | | * | * | | | | | | | | | | | |
| Closed HH | * | * | * | * | * | * | * | * | | | | | | | | |
| Snare | | * | | * | | | | | | | | | | | | |
| Open HH | | | | | | | | | | | | | | | | * |

Figure 5

| 4/4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bass | * | | | * | * | | | | | | | | | | | |
| Closed HH | * | * | * | * | * | * | * | * | | | | | | | | |

Figure 6

# DYNAMITE



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**W5 Dual input Midi Thru Unit – a very clever little box which gives you the benefit of multiple MIDI IN terminals**

continued from page 115

back or push it forward, then the whole 'feel' of the pattern can change. You can do this sort of thing quite easily via most sequencers simply by recording each drum on a separate track and adjusting the individual start positions.

In theory it all sounds fair enough. In practice there's a minor snag... it is now apparent that small differences (a few milliseconds) can make real contributions to the end result. Why should that be a problem? It's because the MIDI clock resolution, which is fixed at 96 clocks per 4/4 bar, cannot resolve or create those sort of very small timing difference effects. Even a tempo of 240 crotchets per minute, which is equivalent to 96 clocks per second, results in an absolute time gap of 10 milliseconds between MIDI clocks.

What does that mean in practice? Simply that the MIDI clock resolution would enforce a quantize level of 10 milliseconds on *any* controllable timing experiment you could do via MIDI communications lines. Don't let me put you off experimenting though because it's still possible to create some good effects. If you really did want to play around with finely tuned delays, you would need a special unit (J L Cooper make one called the FaderMaster). Trouble here is that these 'toys' are fairly expensive and although they do have a number of applications (even in a home MIDI-Studio environment) I cannot in all honesty say thay I'd recommend them as essential pieces of MIDI equipment.

As well as altering the feel of a drum pattern track shifting can, when used with the layering technique mentioned last month, 'thicken up' weak sounding drums – you take the drum track (or a particular part of it), duplicate it onto a second track, shift it along by a small time interval, and play the resulting tracks simultaneously. Done selectively it can be very effective, especially when using hard-left/hard-right stereo panned sound outputs.

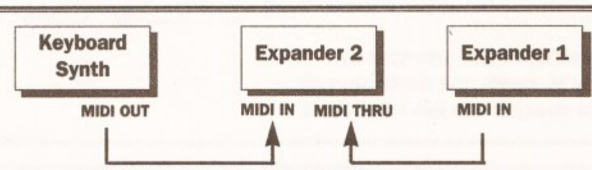



**Figure A A chaining multiple MIDI unit together.**

## RANDOMISATION

Some sequencers will enable you to create randomization masks which will apply a certain amount of modification to a sequence. Again this trick can be used to produce slight non-uniform time-shifts within a quantized sequence. Often the best idea is to duplicate the drum tracks to be randomized, then add them back to the original after the magic changes have been made. These sort of tricks do have some disadvantages, not least the fact that duplicated MIDI events often get inserted into the sequence data. Many sequencer packages (especially more expensive ones) do in fact provide facilities for removing this type of redundant MIDI data.

## MIDI SYSTEM GROWTH

Having whetted your appetite with talk of synths, sequencers, additional sound modules, and drum machines it is time to talk about the various ways that these pieces of equipment can be joined together and to mention some of the snags that can be encountered.

When you've only got a few pieces of MIDI equipment, linking them together is easy. You just 'chain' the devices together using the MIDI THRU terminals as shown in figure A.

The same sort of thing may be done with sequencer set ups and, providing all of your units (or all of them except one) have THRU connections, 3 or 4 units can usually be linked together without problem.

Unfortunately, each time the MIDI signal passes through a unit there'll be a slight deterioration in signal quality. There will also be a small time delay introduced, so you can't go chaining MIDI units together ad infinitum, because sooner or later troubles are likely to develop – notes getting stuck, rogue messages appearing etc. Avoiding difficulties is simple, you use a different approach! Instead of 'chaining' MIDI units together, you adopt an arrangement known as a 'star network'. Figure B shows a typical example and, as you can see, doing things this way means that the MIDI signal only has to travel to one unit along any one path – so there's no noticeable delays or signal degradation.

The bad news here of course is that few MIDI interfaces, or any other pieces of MIDI equipment, come fitted with multiple MIDI OUT terminals and because of the nature of MIDI's digital signals, it is not possible to solve the problem by splitting up a conventional MIDI lead to produce one with multiple connections on one end (as might be done with an audio signal). The solution is to use a device known as a MIDI THRU Box. These allow you to turn a single MIDI OUT connection into any number of outputs. The result – instant star networking as in figure C.

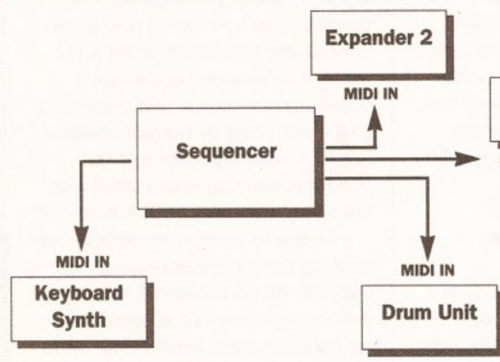



**Figure B**
**To star network the sequencer would need multiple MIDI OUT terminals.**

Philip Rees specialise in these types of units and now provide a range of boxes which supply the necessary magic! The smallest device offered provides three MIDI OUT terminals, it's called the V3 and is battery driven. Further up the scale comes the mains powered V10, this

## JARGON BUSTING • JARGON BUSTING

**Yamaha RX21 –** One of the earlier MIDI drum machine units that Yamaha produced. They can be picked up second hand nowadays for next to nothing (I've seen them advertised for as little as £25). The main disadvantage of these units are that whilst they can play received MIDI drum-note data they do not actually transmit MIDI data when they are playing (so all of the drum programming would have to be done via your sequencer).

**Expander –** Common name for a synthesizer sound module – basically these units contain the sound generating circuitry of a synthesizer without any keyboard. You use them in conjunction with a normal wynthesizer to add (ie expand) to the number of sounds it can make.

**Roland MT32 –** This was one of the first Roland expander units to incorporate a special drum channel.

**Accent Pad –** A special key found on drum machines that increases the volume of any drum played whilst the key is held down.

has it's own built in transformer/ power supply and drives 10 MIDI OUT terminals.

There's not a lot you can say about MIDI THRU Boxes, other than the fact that they work... basically you plug them in and forget about them – it's as simple as that. The V3 by the way costs £14.95, and the larger V10 £35.95.

Ever since the time, many years ago, when I had to run out of a gig trying to find a garage which sold batteries for the drum unit I was using I've been somewhat paranoid about gadgets which use batteries. With something like a THRU Box, which can run for many months on a single battery, it's possible that you might even have forgotten that batteries are needed. I don't know whether it was this sort of nightmare that was the driving force behind the Philip Rees philosophy but, with the exception of the V3 unit, all of their products are mains powered. To be fair, the fact that the V3 unit is battery driven is marked on the unit.

Whilst the conventional THRU box solves a lot of problems, it doesn't solve them all. Some professional sequencing software packages now support multiple sets of 16 MIDI channels and I'm pretty sure that during the coming year this type of power is going to be made available on some of the heavyweight Amiga sequencing packages!

To get the best from such software you need THRU boxes which have multiple MIDI IN terminals. Another reason multiple inputs might be needed is if you were routing multiple MIDI keyboards to the same expanders (which often happens in studio based set ups) or were using other multiple sources (eg drum machine and keyboard).

Philip Rees produce another clever little box which lets you do just that. It's called the W5 Dual Input Box and it allows you to route two completely separate MIDI data streams to any one of five outputs, ie it offers the arrangement shown in figure D.

The W5 unit costs £55.95 and is the one of the most versatile THRU boxes that I've come across. Most people will probably only ever need one THRU Box to build their star network arrangement so it's probably a good policy, providing you can afford the extra cash, to get a unit with this sort of flexibility – you may not need merge facilities at the moment, but what about next year?

One point about 'chaining' and 'star' arrangements that is fairly obvious but deserves a mention. You do not have to use one or the other, you can use a combination! If, you've got a five output THRU box and six units to connect, you can use a basic star network coupled with a short chain as in figure E.

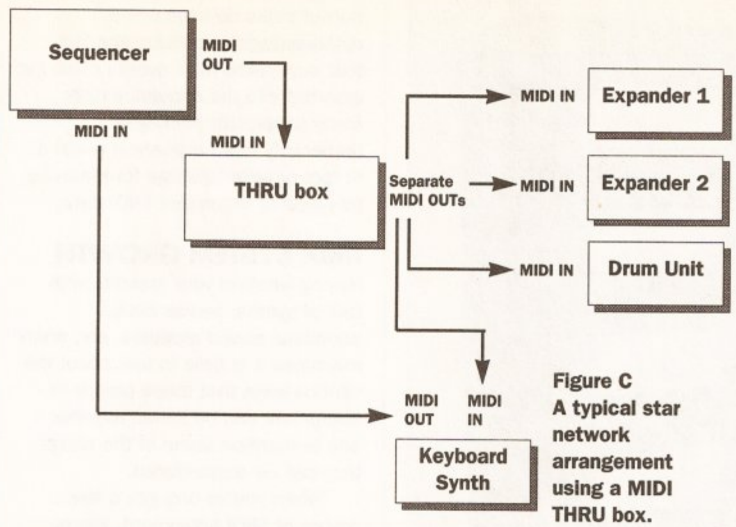



**Figure C**
**A typical star network arrangement using a MIDI THRU box.**

## TALKING PERSONALLY

When it comes to linking up different MIDI units we enter an area which, to some extent, has a touch of magic about it. I have a number of units which for live gigs I regularly chain together into a series of 5/6 units without any thru boxes at all (OK I admit it – I'm a lazy sod when it comes to packing up and unpacking gear). The point of interest however is that I experience none of the problems normally associated with such long chains of MIDI equipment!

I know from experience that I am pushing things in this respect but I'm happy to do so because I know that the arrangement I've adopted works for my equipment and I did all sorts of experiments to convince myself that I had chosen the optimum physical order of MIDI units.

The optimum physical *what*? Yes it's almost certain that if you want to push your MIDI luck in this respect you are almost certain to find that even changing the order of the connected units could make a difference to the presence or absence of MIDI signal degradation problems. I've got an old MIDIVERB II delay unit which goes at the end of my chain. I found that if I place it at the front (so that the sequencer data passes through the MIDIVERB first) I start to get errors from a Casio expander unit further down the chain!

In my studio, where many different pieces of equipment are in use from day to day, I simply do not take those kind of liberties and calculated risks. I always use a star network arrangement and always have a collection of THRU/merge boxes and switching units in use. One of the most useful boxes in this situation is a MIDI patchbay which lets you select the routing configuration of a number of MIDI inputs and outputs. At the risk of sounding like the secretary of the Philip Rees fan club I must admit that again it is a Philip Rees unit, called the 5X5, that I use. This controls five MIDI INs and five MIDI OUTs and its primary use is to eliminate the constant plugging and unplugging of leads when using different MIDI units. It can also function as a 'user configurable' thru box. Unfortunately the 5X5 at £99 is quite expensive but it is expandable so it can grow with your system. When you arrive at the stage where you are really getting into MIDI and are collecting a growing array of MIDI equipment you'll find that such patchbay units come in very handy.

MIDI newcomers however do need to be wary of what they read in the music press. My advice is to aim to keep the cost down as much as possible – after all, there is no point in buying MIDI extras if they are not needed. No matter what MIDI gear you collect your first task should be to experiment with your own equipment and see what you can, and cannot, get away with. You'll then be in a position to know what types of THRU/merge/ switching facilities best suit your MIDI set up!

## LAST WORDS...

That's about it as far as chaining, star networking, and THRU boxes go. There is incidentally, a growing range of Philip Rees products available which includes not only THRU boxes but units for merging MIDI data streams, MIDI routing switches, and a MIDI/CV converter unit enabling you to control up to two analogue synthsizers or CV samplers via MIDI. Further details of all these products from Philip Rees ☎ 0608 811215. That also brings me to the end of the this 'general' MIDI series. Next month things move to a technical level. It's time to take an in-depth look at the MIDI standard itself and explain, at the bits and bytes level, what it all means! To be continued... AS

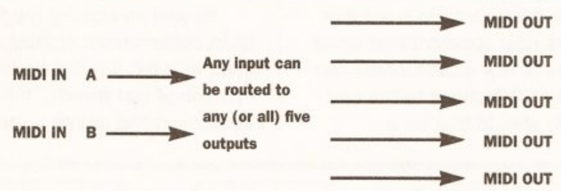



**Figure D**
**This type of THRU box arrangement allows you to merge and distribute twin MIDI data streams into five MIDI OUTS**

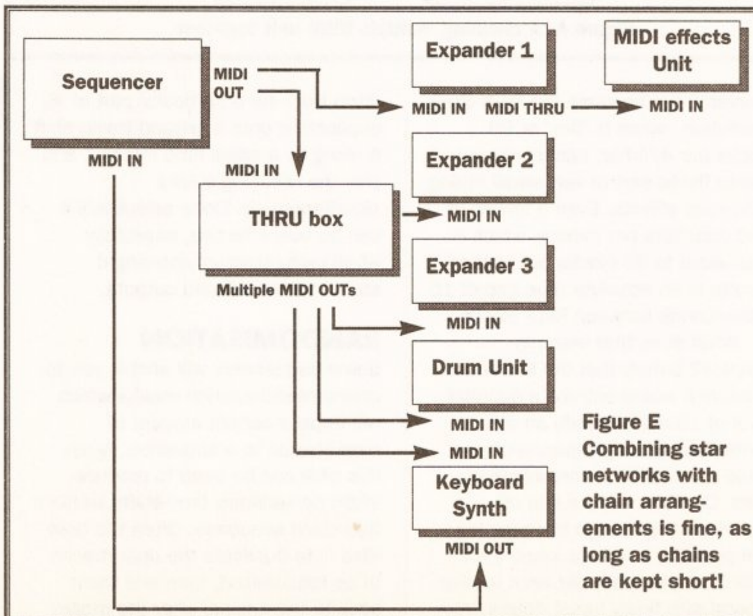



**Figure E**
**Combining star networks with chain arrang-ements is fine, as long as chains are kept short!**

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# Building on the basics

## *Pat Winstanley examines the latest educational software packages for youngsters*



"It's always a bit daunting trying to find software which is educational as well as fun. I'm here to help you make the right choices"

Pat Winstanley

New educational software houses seem to be springing from the woodwork. This month sees the emergence of Triple 'R' Education with *Picture Book*, their first offering aimed at pre-school and infant children. For the same age range are Lander's *Count and Add* and Prisma's *Pepe's Garden*. All cover the basic skills children need as building blocks for the future. Reading depends upon a child differentiating between different letter shapes and matching those shapes to their sounds. All three games concentrate on shape recognition and matching. Which should you choose? Read on...

Also new this month is *Spellbound* for junior and senior school children. This is a move away from the traditional educational style successfully used for years, although all the user definable levels and parent/teacher editing facilities are retained. This game is arcade based, with the educational content concealed behind an arcade romp. Has Lander pulled it off?

### PEPE'S GARDEN (1Mb only)

**pre and early school**

Prisma Software has enjoyed success with the *Play and Read* series featuring Prof. The characterisation has changed but the programming style remains almost identical – this program is *slow*.

Pepe the mouse hosts five activities from shape and pattern matching to counting and painting. All the games are presented on a single attractive menu and are selected by clicking on the required picture. But... the programs come on two disks and like the *Fun School* system, different modules are on different disks. Unfortunately in *Pepe's Garden*, changing disks demands re-booting the Amiga. Since each disk takes two to three minutes to load, the time spent between games is considerable and very irritating. Another annoying feature is that inserting the second disk in DF1: is not allowed. The boot disk cannot go hunting for the game required.

Once the required game has loaded, things proceed at the same rate. The approach uses cute characters wandering on and off screen. At first, children enjoy watching the animated sequences, but soon become bored and prefer to get on with the activity. Unfortunately it doesn't seem possible to skip or speed up the sequences. If you want user-friendliness, this isn't for you.

Educationally things are brighter. The five programs are useful to children learning about shape, colour, pattern matching, counting and elementary words. Reflex is not a factor except in *Garden Games*, and then it is optional (a user-friendly touch at last), so children can go at their own pace.

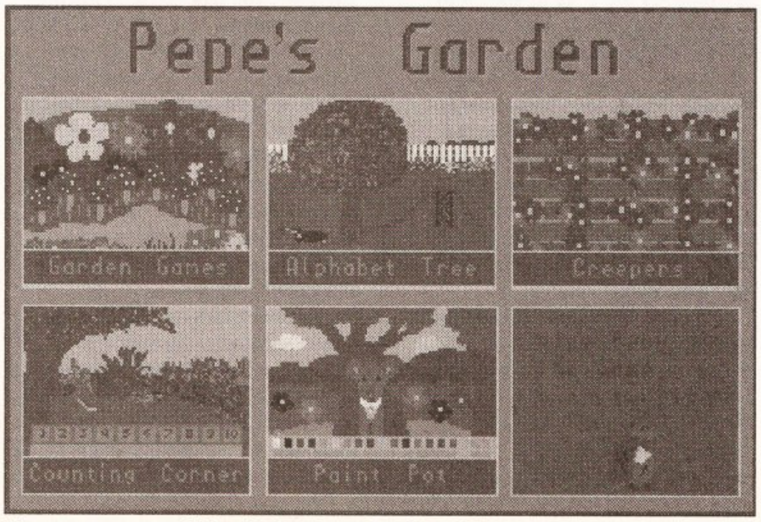
*Garden Games* is played with joystick or cursor keys with the mouse usually not allowed. The absence of the mouse is a shame since it is the fastest way of moving around the screen, and easier than other methods.

The game involves choosing a match between a displayed shape and a range of others. As each match is made, the chosen shape is removed from the screen. The shapes range from coloured circles to mazes which take adults a good deal of thought. At the highest speeds there is no time to think – recognition has to be instantaneous. With four levels of difficulty and seven game speeds there's plenty of flexibility. What a pity a complete reboot is necessary to change the difficulty level or speed!

*Paint Pot* is a point and click colouring book system with six scenes. Although no instructions are given for creating your own pictures, the supplied ones can be loaded and saved at any stage of completion.

*Counting Corner* sees Pepe dreaming of objects and the child has a choice of counting or adding. In each case an answer is selected by sending a baby mouse along a row of numbers.

The *Alphabet Tree* is host to a variety of letters, upper case, lower case or a mixture. Pepe trundles up with a wheelbarrow containing a letter which the child must send a bird to find. If the answer is right the bird sits on the fence, but if wrong, frantic wing flapping sees the flier crash to the ground. Very comical – but the wrong result gives a better animation than the correct answer – something to be avoided.




**The menu screen of *Pepe's Garden* – Starting off is easy, simply click on the required activity**

*Creepers* is a jazzed up version of the platform and ladders style used in the first three Prof games. On the left are pictures or words depending upon the difficulty level. On the right is a selection of matching and non-matching words. Using the keyboard or joystick, a little mouse must be directed to the left to choose a word or picture, then to the selection on the right to find a match. The graphics on this section certainly help to entertain the child, but as in the Prof series movement around the screen is painfully slow.

Lack of speed just about sums up this package. While nobody expects lightning-fast machine code action here, setting up and playing the games is sluggish and off-putting for children who can handle the Amiga already. *Pepe's Garden* is educationally sound with some original approaches, but my testers rapidly became bored.

Having said all this, I did contact the manufacturers to pass on my complaints, in particular, about the lack of user friendliness. This has been noted and a new version of *Pepe's Garden* will be coming soon...

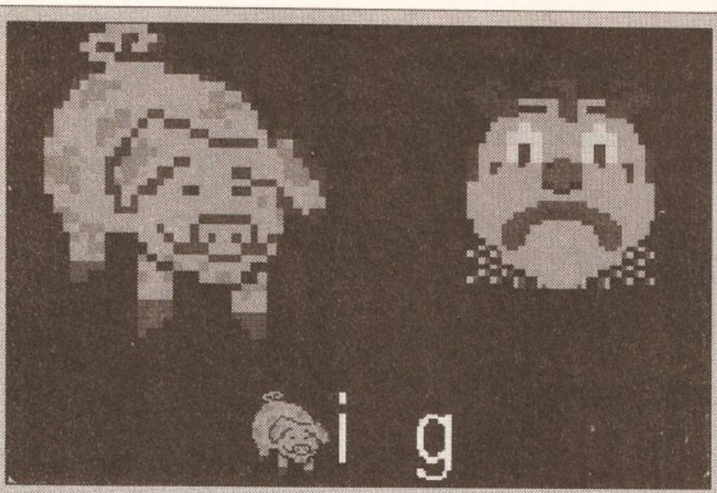
### COUNT & ADD

**pre and early school**

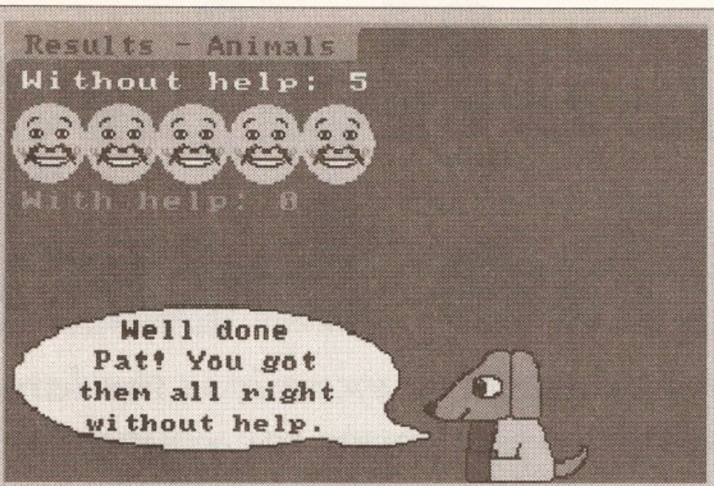
Lander continues its commitment to the National Curriculum in *Count and Add*. Based on a successful BBC package used in UK schools, it consists of five activities which cover counting, matching and addition.

Unlike the graphic distractions of *Spellbound*, *Count and Add* sports bland screens which hardly vary in activities. The choice of colour is strange at times with pastel shades predominating. Unfortunately this makes the already simple graphics uninspiring, and difficult to make out. A television display is likely to cause more difficulties in distinguishing items on the screen.

However the program is




*Picture Book's Spell it!* – The aim of the game is to associate pictures and words, correctly spelt of course!




*Count and Add* – Maths for the absolute beginner. Bright and clear animations keep the kids' attention between rounds

## EDUCATIONAL CONTENT AND VALUE

| | Maths | Lang | Science | Reflex | Logic | Revision |
|---|---|---|---|---|---|---|
| *Pepe's Garden* | Y | Y | N | Y | N | Y |
| *Spellbound* | N | Y | N | Y | N | Y |
| *Count and Add* | Y | N | N | Y | N | Y |
| *Picture Book* | Y | Y | N | Y | N | Y |

## OVERALL RATINGS

| | Educational Value | Ease of Use | Flexibility | Addiction | Overall |
|---|---|---|---|---|---|
| *Pepe's Garden* | 4 | 1 | 2 | 2 | 2 |
| *Spellbound* | 3 | 4 | 4 | 5 | 4 |
| *Count and Add* | 4 | 4 | 4 | 2 | 3 |
| *Picture Book* | 4 | 4 | 2 | 4 | 3 |

enjoyable with a good range of options for adjustment by the parent or teacher. A progress recorder can save or print out the their results (and kids love having a piece of paper to prove their competence). Another touch is the use of sampled speech (with a Scottish accent).

Help is offered if the child is in difficulty and control is simple, often using the spacebar to increment or decrement the number on screen with the [Enter] key to confirm.

In summary this program is ideal for youngsters beginning to get to grips with numbers but it is essentially a drilling exercise and may prove too bland in the home.

## PICTURE BOOK

**pre and early school**

Triple 'R' Education is a new company masterminded by Peter Davidson, the Design and Project Manager of the award winning *Fun School 2* – and it shows.

*Picture Book* is the first of a series of products aimed at pre-school and primary children. The products have a neat twist. Since children learn lower case letters before upper, a transparent keyboard overlay can be used showing large lower case letters for the child. As the qwerty layout can also confuse non-typists, an alphabetic layout is also available, again in lower case. The programs are designed so that either layout may be used. A later product, *Money Matters*, will include an overlay covering coins, numerals, arithmetical signs and key words such as yes, no and delete.

That's the novelty angle but what about *Picture Book*? The four games come with colourful graphics and simple controls. Along with the pictures come sound effects from a zip to a beautifully blown raspberry which had the kids in stitches.

*Alphabet Book* is operated by pressing a letter of the alphabet on the keyboard. When this is done a word and picture corresponding to that letter appear. The picture can be enlarged or reduced using the arrow keys and on appearance an animation or sound sample jazzes up the action. This program is ideal for pre-readers as they will learn to look on the keyboard for the letter which will bring up their favourite picture.

*Spell it!* presents pictures with their associated words. The first level shows the word on screen and encourages the child to spell it by copying. Any correct letters pressed will be placed on screen removing the restriction of having to spell left to right. The second level does not show the word, but mistakes are corrected by giving the next correct letter for each incorrect keypress.

*Count 'em!* shows several objects, asking the child to identify the correct number. It gives a clue, eg "less than 3", to help.

*Snap* is based on the card game of the same name. A picture is shown on screen and others dealt next alongside. Up to three players, each with a key to press, try to be the first to register a match. Correct tries give a point, while incorrect presses deduct a point. The first to three is the winner.

While very simple, the games are educationally sound and user friendly. The addition of children's keyboard overlays turns the package into an enjoyable, useful resource for both pre and early readers.

## SPELLBOUND

**junior and senior**

This game is quite a departure for Lander, being an arcade romp rather than simply a jazzed up drilling exercise. The plot features our old friend Henrietta, but this time she's asked her cousin to help retrieve Morgana the Morbid's magic wand. This has been entrusted to Professor Grime who has it under lock and key – in fact five locks and keys.

The game consists of five levels of standard arcade fun where the child controls submarines, spaceships and helicopters. While navigating through each level, various monsters are available to shoot and avoid. Each time a monster is shot, a letter is deposited in its place. At the start of each level the child is given a word to find and must collect the correct letters in order by moving over them.

My young testers romped through this in about an hour. What they didn't realise was that I could set the difficulty of the arcade play for them, and edit the words to give them a greater challenge. That'll teach 'em. Wait until they have another go.

Although the style of gameplay has changed in *Spellbound*, flexibility remains. Thus word lists can be created and saved for different children (or even adults) and game levels set by devices such as making dungeon walls fatal on contact. There's even an arcade high-score table to encourage competition.

This game is ideal for children who are a little slow with the joystick. Due to the customisation options, the rank novice can compete on level terms with the joystick jockey. And while not particularly sophisticated in terms of end-of-level baddies and super weapons most kids will enjoy the challenge and practise their spelling instead. My kids found they needed to write down the required word at the start of each level, partly to remember the word and partly to remember how to spell it. Perhaps I'll be really sadistic next time they play and 'lose' the pen. AS

## SHOPPING LIST

**Spellbound** ..................£25.99
**Count and Add** ..............£25.99
From: Lander Software
74 Victoria Crescent
Glasgow G12 9JN
☎ 041 357 1659

**Pepe's Garden** ............£25.99
From: Prisma Software
29 St James Avenue
Upper Heath
Chester CH2 1NB
☎ 0244 3262

**Picture Book** ...............£19.95
From: Triple 'R' Education
1 Percy Street
Sheffield S3 8AU
☎ 0742 780370

# Go with the flow

## Jason Holborn mulls over a program which promises to organise your thoughts

**"Idea processors are certainly nothing new, but Flow was the first and still is the only program of its kind to be released on the Amiga. Let's see how it performs..."**
**Jason Holborn**

Good ideas come when you least expect them. Just when you've settled down for a relaxing bath or even when you're mowing the lawn, without warning, a brainstorm can hit you. When inspiration does strike, most of us grab the first scrap of paper within arm's reach – be it an empty cigarette packet, a hanky or a spare sheet of Andrex! Many great ideas have started life this way, but it's hardly the most reliable method of ensuring that your idea makes it past the initial stages of conception.

Developing an idea can also be a rather hit and miss affair. How many times have you come up with a great idea and tried to develop it, only to find yourself unable to turn it into a workable format? I'm quite sure that many of the problems we face today could have been solved long ago, if some bright spark had been able to nurture the brainstorms which we all have at least every once in a while.

To help the creative process, New Horizons Software (of *ProWrite* fame) have unveiled the latest version of their ideas processor *Flow*.

*Flow* promises to aid the process of turning your thoughts from a jumbled mess into a more usable and – hopefully – structured format, so those great ideas and thoughts can be developed far more quickly. The program will not come up with ideas – that's your job – but it makes the task of developing your thoughts more efficient and productive.

So what is *Flow*? Well, in truth it's nothing more than a glorified note-pad for ideas, but some very powerful tools designed specifically for organising thoughts save it from becoming yet another hybrid word processor. Originally released back in the days of the aged A1000, *Flow* has never gained the recognition it deserves. Indeed, there are very few Amiga owners who have previously even heard of it! – Admit it, had you?

### IDEA DEVELOPMENT

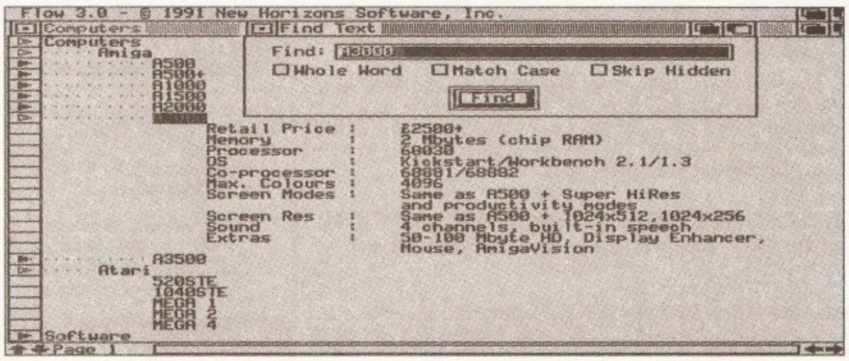
Whilst *Flow* undoubtedly shares more than a few features with the good old word processor, its primary strength is its ability to organise information. *Flow* encourages you to group information in a hierarchical structure by dividing information into subheadings. So, each time you enter a piece of information (ie a thought or idea), you can develop it by grouping relevant thoughts into further sub-headings. As you can probably already start to appreciate, *Flow* documents eventually end up looking somewhat confused.

To stop this, *Flow* makes things tidier by allowing you to collapse subheadings so that their data is hidden, leaving you to concentrate on the information you are concerned with. If you then wish to gain access to other information, select 'Expand' from the pull-down menus and the subheading's contents are revealed. What you eventually have is a mass of information organised in a type of hierarchical tree structure.

In practice, this method of storing information works very well indeed. Not only is it easy to grasp, but it also seems to encourage the creative process, often resulting in a far more productive session. In some ways, the end result was often better than I could have achieved using the traditional pen and paper.

### FLEXIBLE FRIEND

*Flow* is one of those general-purpose programs which can be applied to a myriad of different tasks. Because of its ability to organise data, *Flow* can be used as an alternative to a database. For example, if you ran a computer shop you could easily use *Flow* to control stock information. Breaking down your stock into categories, the top level of your information tree could contain three entries – computers, software and peripherals. Each of these three entries would be split into further entries – for computers, you might have five more entries – CBM Amiga, Atari ST, IBM PC, Acorn Archimedes, Apple Macintosh. Each of these entries would then hold information on the respective computer – retail price, specification etc.




**Once your outline is complete, you can use *Flow*'s search facility to gain quick and easy access to the information you require**

Backing this up is *Flow*'s ability to search through your outline for a user-specified string. Going back to our above example, instead of having to flick through all those subheadings, searching for the word 'Amiga' would bring forward the information.

Once your outline is complete, you can carry out a variety of operations including the sorting of headings and sub-headings at any level, splitting and joining of subheadings and so on. For a permanent record of your outline, it is possible to dump the results out to a printer or to import your outline into a desktop publishing program or word processor.

### LAST BUT NOT LEAST

Having used idea processors on other machines, I admit that I did have some unqualified preconceptions about *Flow*. I've never really been a fan of idea processors, but *Flow* has changed all of that.

Having sat myself down and gone through its features and possible applications with a fine tooth comb, I'm now a convert. OK, it offers nothing which couldn't be achieved by means of other programs, but the ease-of-use and simplicity of *Flow* certainly make it an attractive product. *Flow* is one of those programs which can be mastered in minutes yet which prove to be useful for many years to come.

For anyone who works in a trade where large amounts of information must be collated in a more understandable format, a program like *Flow* is an absolute godsend.

The applications for *Flow* are endless and limited only by the user's imagination. However, the program could have been enhanced by some form of hypertext linkage of information. This way, you could cross-reference outlines, and that would be even more usable. Something for version 4 perhaps? AS

## CHECKOUT FLOW 3

**Ease of Use** ●●●●○
From the minute you load, you'll be composing outlines with ease.

**Features** ●●●●○
It may sound like a simple program, but it's packed with features. Although some form of hypertext-based linkage wouldn't have gone amiss.

**Documentation** ●●●●○
Great manual, detailing every feature in the minutest detail.

**Speed** ●●●●○
As you'd expect from a New Horizons product, *Flow* certianly doesn't hang around. Most operations are carried out instantly – a real performer!

**Price Value** ●●●○○
£80 is a lot to fork out, but there's no doubt about its usefulness.

## SHOPPING LIST

**Flow 3........................£79.95**
**by New Horizons Software**
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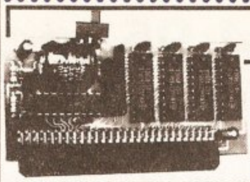


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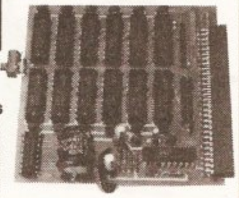
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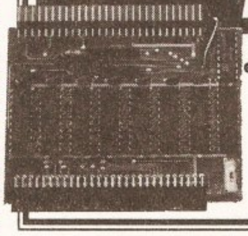
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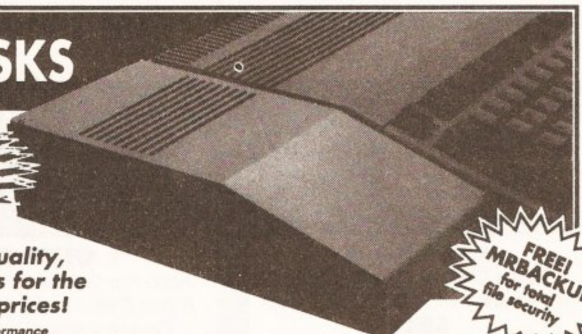
**CONNECTS TO YOUR 512K RAM UPGRADE TO GIVE 1.5MB**

**ONLY £54.99**

MEGABOARD needs Kickstart 1.3 to operate (Kickstart 1.3 upgrade available from us for £29.95). Installation requires connection to the GARY chip. Easy to follow instructions provided.

## A500 HARD DISKS

**PRICE BREAKTHROUGH!**



FREE! MRBACKUP for total file security

***AT LAST... the chance to buy Quality, High Capacity Hard Disk Systems for the Amiga 500 at realistically low prices!***

- ☆ NEC SCSI HARD DISK MECHANISMS for *optimum performance*. 25ms Access Time & Autoparking
- ☆ Includes its own DEDICATED PSU. CBM recommends against use of Hard Disks without independent power supply.
- ☆ Option for up to 4MB additional easy RAM EXPANSION, using 'SIMMS'
- ☆ COOL.... by popular demand, we have now fitted a Cooling Fan!
- ☆ GAME SWITCH allows Games to be loaded without disconnection
- ☆ Includes SCSI THROUGHPORT at rear for further expansion
- ☆ High quality metal casing, colour matched to the Amiga 500
- ☆ Includes 'MRBACKUP PRO' as well as Configuration/Format software

**40Mb MODEL ONLY £299**
**100Mb MODEL ONLY £449**
2Mb RAM Version: ADD £80 • 4Mb RAM Version: ADD £160

## 3½" EXTERNAL FLOPPY DRIVES

*AMAZING LOW PRICE !*
**£49.99**
including VAT & delivery



- Very quiet
- Slimline design
- Suits any Amiga
- Cooling Vents
- Sleek, high quality metal casing
- Quality Citizen/Sony drive mechanism
- On / Off switch on rear of drive
- Full 880K Formatted Capacity
- Long reach connection cable

Also available:
5.25" External Drive
40/80 Track Switchable
Only £99.00 inc.VAT/delivery

NEW TELESALES OPENING TIMES : 9AM - 7PM (MONDAY-FRIDAY) • 9AM - 5.30PM (SATURDAY)

## ZY-FI amplified stereo speakers

**REALISE THE TRUE SOUND POTENTIAL OF YOUR AMIGA WITH THIS PAIR OF FULL RANGE SPEAKERS !**



Your Amiga produces fine quality hi-fi stereo sound. Enjoy quality stereo sound reproduction *to the full* with this specially designed, great new twin speaker system! Features reflex ported speaker design with 3 separate drivers in each unit, and incorporates a built-in amplifier with adjustable volume control. Runs from PSU (supplied) or from batteries (not included).

*Speaker Dimensions 248x93x125mm (HxWxD)*

**ONLY £39.95**

## NEW! TOP VALUE 400dpi HANDY SCANNER

**QUALITY SCANNING - AT THE RIGHT PRICE !**



**Representing outstanding value for money, this package combines *top quality* scanning hardware with the distinctively powerful *DAATASCAN PROFESSIONAL* software.**

At a genuine 400dpi scanning resolution, this new scanner produces truly superb quality scans. Has a full 105mm scanning width, variable brightness control and 100 / 200 / 300 / 400dpi resolution. **Daatascan Professional** scanning *and* editing software allows real-time scanning in either line art or in up to 64 simulated grey scales. Provides powerful editing features and excellent compatibility with most DTP and Paint Packages, eg. Deluxe Paint 4, Touch-Up.'

**ONLY £99.99**

## TRUEMOUSE




**WE GUARANTEE that this is the smoothest, most responsive and accurate replacement mouse you can buy for the Amiga. Excellent performance, now with a 300dpi resolution. Amazing new price!**

**£16.99** *SATISFACTION GUARANTEED*

**GOLDEN IMAGE OPTICAL MOUSE** Amiga/ST compatible - excellent travel+accuracy assured. **NEW LOW PRICE!.. £ 29.00**

## ROCGEN GENLOCK MK.II




**OFFERING EXCEPTIONAL VALUE FOR MONEY, this fully compatible GENLOCK adaptor offers levels of quality, function and sophistication not normally available in this price category.** Special features include the ability to record graphics & animations on video recorders and overlay graphic and text onto video. Capable of smooth and stable fading and overlaying effects with special tuning knob.

**ONLY £99.99**

## NEW! 'ROCGEN PLUS'

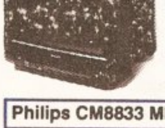
**Compatible to any Amiga or Commodore CDTV, this NEW Genlock Adapter provides Advanced Special Effects and Performance Features without sacrificing user-friendliness!**



New Special Features include: Dual Dissolve control knobs providing freely adjustable degrees of overlay or invert (keyhole) effects; Auto Video pass-thru; extra Video throughport for separate line monitoring; RGB pass-thru for real-time editing of Amiga graphics; plus Key-In port for use with an external keying device.

**ONLY £129.95**

## PHILIPS 15" TV/MONITOR



**With its dedicated monitor input, this model combines the advantages of a high quality medium resolution colour monitor with the convenience of remote control Teletext TV - at an excellent low price ! NEW Version features dark glass screen for improved contrast, plus full range 3-way speaker sound output .**

**£269.00** Including VAT, delivery & cable

**Philips CM8833 Mk.II** including cable .............. £ 239.00

## A590 ADD-ON HARD DRIVES

**A590 OWNERS!** Expand your hard disk storage further with one of our add-on, externally cased SCSI Hard Drives, with 25ms autoparking NEC mechanisms and separate power supply. Plugs into the socket provided on the rear of the A590 unit.

**External 40Mb SCSI Drive** cased with PSU to directly add-on to the Commodore A590 .................. **£ 299.00**

**External 100Mb SCSI Drive** cased with PSU ...................... **£ 449.00**

# AMIGA 500+ SPECIAL OFFERS

## A500+ CARTOON CLASSICS PACK




**TOP VALUE PACKAGE INCLUDES :**
- NEW 'AMIGA 500 PLUS' with 1Mb RAM, 1Mb Drive, Kickstart 2, Workbench 2, TV Modulator, Mouse, etc.
- 'DELUXE PAINT III', PLUS:
  - 'LEMMINGS' *(top seller!)*
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  - 'BART SIMPSON vs. THE SPACE MUTANTS'

**£369.99**

**2MB CHIPRAM VERSION £399.99**

## 'CARTOON CLASSICS EXTRA' PACK

**GAZZA** limps to Evesham Micros in our brilliant value Classics Extra Pack!

**TOTAL OF 22 MEGA GAMES !**

Features Amiga 500+ *'Cartoon Classics'* Pack as detailed above, plus Virus Protector, Mouse Mat, Top Quality Joystick *plus* 19 FABULOUS GAMES including : -

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| | 'GAZZA 2' | 'UNDER PRESSURE' | 'SUBBUTEO' |
| | 'Battle Squadron' | 'NIGEL MANSELL' | 'ASTERIX' |
| 'Tracksuit Manager 90' | 'Germ Crazy' | 'High Steel' | 'The Ball Game' |
| '20,000 Leagues Under The Sea' | 'Diet Riot' | 'Night Walk' | 'Block Alanche' |
| 'Better Dead Than Alien' | 'Treasure Trap' | 'Lost'N'Maze' | 'DiskMan' |
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***PLUS!*** 'Wordwright' wordprocessor and 'Scalc' spreadsheet

**£389.99**

**2MB CHIPRAM VERSION £419.99**

A500 Class of the 90's Pack .......................... £ 499.00
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Commodore A590 20Mb Hard Drive ............... £ 299.99
A590 512K RAM Upgrade .................................. £ 29.95
A590 1Mb RAM Upgrade .................................... £ 59.95
A590 2Mb RAM Upgrade .................................... £ 99.95
Amiga 1500 Starter Pack (1Mb RAM, 2x3.5", Colour Monitor, 'DPaint 3', 'Platinum Works', 'Home Accounts', 3 x Games, etc) .................. £ 979.00

## REPLACEMENT AMIGA 500 INTERNAL 3.5" DRIVE KIT



Fully compatible, with 1Mb unformatted capacity. Straightforward installation procedure. Kit includes full fitting instructions.

**ONLY £41.99**

## TRACKBALL



High performance trackball, directly compatible to any Amiga or Atari ST. Plugs into mouse or joystick port. Super-smooth and accurate - you probably won't want to use a mouse again after using this Trackball ! Full one-handed control. Top quality opto-mechanical design, giving high speed and accuracy every time. No driver software needed !

**ONLY £29.95**

## REPLACEMENT A500 PSU



Genuine Commodore Amiga A500 type replacement Power Supply Unit. Good quality 'switch mode' type. Super low price!

**ONLY £39.95**

## STEREO SOUND SAMPLER

Offering full compatibility with almost any Amiga audio digitiser package, our Sound Sampler features excellent circuitry, yielding professional results. The main A/D converter gives a digitising resolution of up to 50KHz, with a fast slew rate. Two phono sockets are provided for stereo line input, plus an option for microphone. Adjustable gain is achieved with built-in control knob. Complete with public domain disk containing sound sampling applications / utilities.

**ONLY £29.95**

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Our fully compatible, high quality MIDI interface connects directly with the Amiga serial port and provides IN, OUT & THRU ports for good flexibility. Features LED indicators on each port for diagnostic purposes. Superb compact

**ONLY £19.95**

## VIRUS PROTECTOR

Our compact Virus Protector fits easily to the Port of the last disk drive in your Amiga system, protecting all internal and external drives from boot block viruses. Incorporates a switch to enable or disable the protection facility.

**ONLY £6.95**

## AMIGA 1500/2000 UPGRADES

**HARD DRIVE / RAM UPGRADE BOARD KIT**

Kits include full size hard disk controller cards with unpopulated SIMMS RAM upgrade sockets for fitting up to 8Mb RAM, plus high speed NEC Hard disks.

**40Mb HARD DRIVE & INTERFACE / RAM CARD ...... £ 349.00**
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PLEASE NOTE: These are empty RAM sockets - Add £80.00 per 2Mb RAM required.

**COMMODORE C.D.T.V. including 'Lemmings' & 'Hutchinsons Encyclopaedia' Starter Compact Discs** .......... £ 499.00
**VIDI-Amiga** video digitiser package inc. VIDI-Chrome ........................ £ 110.00
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**VIDI-RGB** colour frame generation kit from B&W images .................. £ 64.95
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**Kickstart 1.3 Upgrade** ................................................ £ 29.95
**Amiga 500 Dust Cover** ................................................ £ 4.95

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**Prices Include VAT, Delivery and Connection Cable**

Gold star REGISTERED DEALER

**EVESHAM MICROS STAR PRINTERS INCLUDE 12 MONTHS ON-SITE WARRANTY**

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***NEW SUCCESSOR TO THE STAR LC-10, WITH MANY FEATURES AND A FASTER PRINT SPEED***

Providing superlative paper handling, four excellent NLQ fonts and a new super-fast print speed of 180cps in draft and 44 cps in NLQ, the LC20 appropriately supercedes the phenomenally

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**PROFESSIONAL SERIES 9-PINs WITH COLOUR UPGRADE *EXTRA SPECIAL OFFER* !!**



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**Star LC 24-10** 24-Pin, 4 fonts, 180/60cps ........................ £ 209.00
**Star LC 24-200** 24-Pin, 5 fonts, 200/67cps ........................ £ 249.00
**Star LC 24-200C** 7 colour version of above ........................ £ 289.00
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**NEW! Star XB24-250** 132 column version of XB24-200 ........... £ 479.99

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**Olivetti JP-350 Inkjet** excellent high speed 300dpi printer....... £ 349.99
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**Hewlett-Packard Deskjet 500C (Colour)** ............................ £ 559.00
**Epson LX400** budget 10" carriage 9-pin 180/25cps ................ £ 139.00
**Epson LQ570** 24-pin 180/60cps, 8k buffer ........................... £ 290.00
**NEC P20** ............................................................... £ 229.00
**Panasonic KXP1124i** uprated 24-pin model 300/100cps.......... £ 279.00
**Panasonic KXP1123** good value 24-pin model ........................ £ 215.00

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*Special!* Digita Wordworth ... £ 99.00
Kind Words 2 ..................... £ 37.95
Protext V5 ....................... £ 119.95
Digita Home Accounts V2 ... £ 49.00
Deluxe Paint 4 .................... £ 79.99
Deluxe Video 3 .................. £ 84.95
MR Backup ........................ £ 29.95
AMOS ............................... £ 37.50
HiSoft Lattice C ................ £ 199.00
GFA BASIC V3 .................. £ 39.95
GFA BASIC Compiler ......... £ 34.95
Devpac 2.15 ...................... £ 44.95
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# Superb Sequencer One deals

***Whether you are already a long-time user of Gajits' acclaimed Sequencer One, or you have just got your copy from the cover of Amiga Format, here are some superb offers on accessories...***

## THE HIT KIT MUSIC SYSTEM

A music composition system to use with both *Sequencer One* and *Sequencer One Plus*. It can help you to create professional-sounding drum tracks, bass lines and other accompaniments in a wide range of musical styles (eg ballad, blues, house, disco, latin, reggae or techno). Very little previous musical knowledge is needed to obtain frighteningly rapid results! Can you write a number one hit? Here's the kit to help you, only £24.95 (RRP £29.95)!

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| **The Hit Kit!** | **£24.95** | **AS008** |

## AMIGA FORMAT

### BACK ISSUE FEATURING COMPLETE SEQUENCER ONE MIDI SEQUENCER – ONLY £5

What do you mean you missed it? One of the biggest ever giveaways of serious Amiga software and you didn't get your copy? Well, don't fret because it's still possible to get a copy of the January Amiga Format. In fact if you're very quick you might still find one on the shelves – it's on sale until January 8th. But if you're too late you can order a copy from our back issues department, and still get Sequencer One, The Graphics Workshop, three levels of Lemmings and Amiga Format for just a fiver. Don't miss it this time!

| Description | Price | Order No |
|---|---|---|
| **Amiga Format January** | **£5.00** | **AS009** |

## SEQUENCER ONE PLUS UPGRADE KIT

Don't miss out on this incredible offer! Upgrade to *Sequencer One Plus* to take advantage of a host of extra features including the unique Juke Box screen and Gajits' new 'Diamond Drag' note editing system. Also includes: tempo maps, auto count in, MIDI sys ex handling, track solo, extra quantize options, and much more! All of this will sell for £129.95 (RRP). For a short time only, *Sequencer One Plus* is available as an upgrade kit for *Sequencer One* owners (and that includes everyone who has the program from *Amiga Format* Coverdisk 30) at just £49.95 (RRP). But we're offering it to you at a mere £39.95 for an amazing total saving of £90!

| Description | Price | Order No |
|---|---|---|
| **Sequencer One Plus** | **£39.95** | **AS007** |

## Sequencer One mail order form

Name ______________________

Address ______________________

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Post code ______________________

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| Description | Price | Order No. |
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Method of payment (please circle) Access ● Visa ● Cheque ●

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**SEND THIS FORM TO: Amiga Shopper, Future Publishing Ltd, Freepost, Somerton, Somerset, TA11 7BR**

**No stamp required if posted in the United Kingdom, Channel Islands or the Isle of Man**

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## SAMPLE SETS

A collection of five volumes of IFF format digital sound samples for use with *Sequencer One* and *Sequencer One Plus* (as well as other programs using IFF samples). Each volume contains up to 80 samples and includes a demo song to demonstrate the capabilities of the samples. There are five volumes: Percussion and Effects, Guitars and Strings, Brass and Woodwind, Synth and Vocals, and Piano and Keyboards.

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| **Sample Series 1: Percussion** | **£9.95** | **AS001** |
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# MORE MEMORY POWER!

## NOW YOU CAN ADD UP TO 1.5 MEGS TO YOUR AMIGA AT THE LOWEST PRICES EVER!!

**UNIQUE FASTMEM/ CHIPMEM OPTION***



# PRO-RAM PLUS™

- THE FIRST RAM UPGRADE CARD TO OFFER THE UNIQUE FASTMEM OR CHIPMEM OPTION AT THE FLICK OF A SWITCH*. NOW YOU CAN HAVE THE EXTRA SCREEN HANDLING ABILITY OF THE A2000 - PLUS LOTS MORE!!
- Simply plug into your Amiga A500 and upgrade to a full 1 Meg in minutes!!
- Features the latest 1 Meg DRams. Low chip count means very low power consumption. No bigger than a Credit Card!!
- Top quality high grade PCB and connector to give unmatched reliability - 12 months guarantee.
- Switch to enable/disable plus "ChipMem" option* (02 Agnus).
- Now you can run ALL Amiga 1Meg programs.
- Also available with clock/calendar option.
- Easily fitted into the slot under any A500 - does not affect warranty.

**NOW ONLY £19.99** STANDARD VERSION
**£24.99** FOR CLOCK VERSION

# RAM-MASTER II™

- IF YOU NEED EVEN MORE POWER THEN THE RAM-MASTER II™ IS FOR YOU!!
- Adds an extra 1.5 Megs to your A500 (giving a total free memory of 2 Megs).
- Uses the latest 1 Meg DRams resulting in extra low power consumption.
- Ram-Master II needs Kickstart 1.3 onwards.
- Complete with onboard clock/calendar.
- Top quality connections used throughout.
- Comes with 12 months guarantee.
- Easily fitted into the slot under your A500 - requires no soldering (the cover of your A500 must be removed for fitting "plug in" connector #)

**NOW ONLY £79.99** WITH 1.5 MEGS OF RAM
**ONLY £39.99** FOR CARD WITHOUT RAM



**UPGRADE YOUR A500 TO 2 MEGS!**

## ATTENTION ALL A500 PLUS OWNERS

**IF YOU HAVE AN AMIGA A500 PLUS THEN WE CAN OFFER A PLUG IN RAM UPGRADE TO BRING YOUR MACHINE UP TO A FULL *2 MEGS* OF *CHIP RAM***

- Simply plug in - no modifications.
- Uses low power surface mount chips.
- Does not affect warranty.

**1 MEG RAM BOARD**
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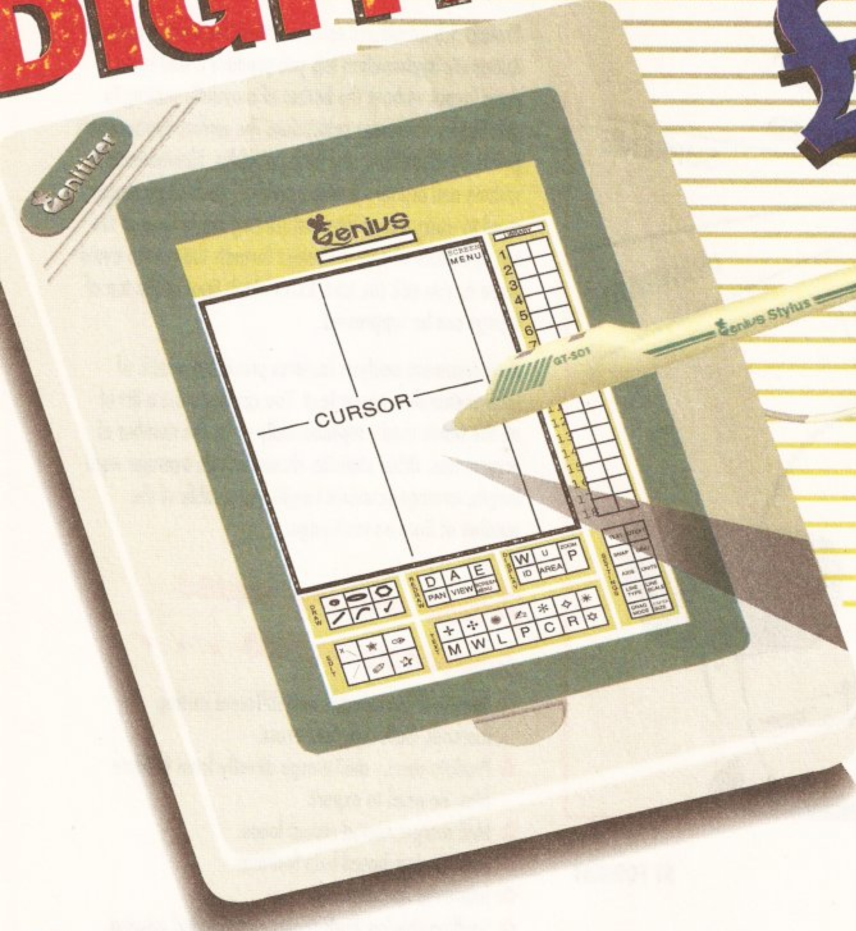


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# GENIUS DIGITIZING TABLET

# £129.99

## COMPLETE FOR THE AMIGA




## ADD A PROFESSIONAL TOUCH TO YOUR DRAWING / CAD WORK

- **With the Amiga Genitizer Graphics Tablet you can streamline the operation of most graphic or CAD programs.**
- **The Genitizer Graphics Tablet utilises latest technology to offer up to 100 dpi resolution at the tip of a stylus.**
- **Complete 9" x 6" digitizing area plus super accurate stylus combine to enable fast, accurate and easy control.**
- **Works by "mouse emulation" so the Genitizer will work with most packages where mouse input is the usual method - Deluxe Paint, Photon Paint, CAD Packages, etc. etc.**
- **Supplied with a template for Deluxe Paint.**

**Full easy to follow instructions.**

**This is the input method used on professional systems - now ou can add a new dimension to graphics/CAD.**

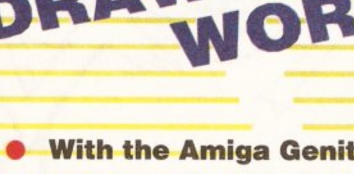
**Fast input of drawing by "tracing" is made easy - plus bsolute reference" means you can move around the screen any times faster than by a mouse.**

**The Genitizer fits in the serial port of your Amiga 00/1000/2000 and "co-exists" with mouse.**

**Unlike a mouse, the Tablet gives absolute co-ordinates so at tracking and menu selections are possible from the tablet ce.**

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**Complete system - Graphics Digitizer Tablet, Stylus, Deluxe aint Template, Power Adaptor, Test Software, Interface Unit, us Driver Program - no more to buy!**



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**As an alternative to the stylus input the Genius Tablet also has an optional four button puck. Ideal for tracing etc.**

**ONLY £29.99**

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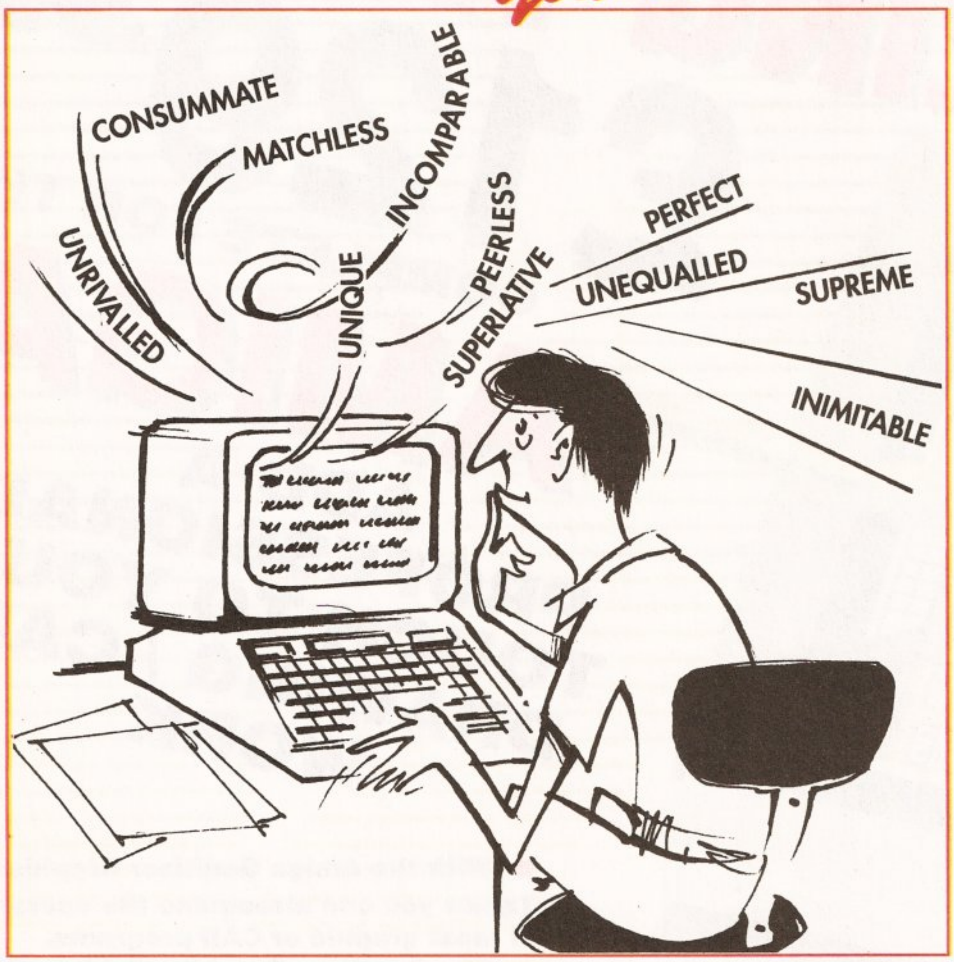
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## "You won't be lost for words" . . .




. . . with Protext 5.5 because the pop-up thesaurus will provide you with inspiration whenever you need it. With words provided by Collins the thesaurus has 43,000 main entries and 827,000 responses!

Protext 5.5 introduces enhanced text formatting options. Automatic hyphenation lets you produce a well-spaced page layout without the bother of manually putting in soft hyphens. Protext determines the correct hyphenation points by algorithms and look-up tables. Elimination of widows and orphans is also provided. You will no longer need to worry about those infuriating single lines at the top or bottom of pages. Protext formats the text to avoid these as you edit the text. Extra blank lines at the top of a page can be suppressed.

New document analysis features provide a wealth of information about your text. You can examine a list of all the words used - alphabetically or by the number of occurrences. Other statistics shown include average word length, average sentence length and a table of the number of lines on each page.

*"it's bloody brilliant"* — ST FORMAT

*"one hell of a performer"* — COMPUTER SHOPPER

*"if you need a professional word processor Protext is perfect"* — AMIGA COMPUTING

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## Plus many more improvements . . .

- Enhanced file selector with different sorting methods, bulk copy and erase.
- Prodata users - mail merge directly from Prodata files, no need to export.
- Mail merge: nested repeat loops.
- New window-based help facilities.
- Improved line drawing.
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- Conversion to and from WordStar 5.5 and Microsoft RTF
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## Of course Protext still includes . . .

Choice of pull-down menu or keyboard operation, extensive printer font support and proportional formatting while editing, up to 36 files open, split screen editing, characters for 30 languages, index and contents, footnotes, newspaper column printing, file sorting, macros, indent tabs, mail merge programming language, exec files and the fastest search and replace around. Altogether the most comprehensive word processing software for your Amiga or ST.

### PRODATA 1.2

**New version of Prodata now with pull-down menus, mouse or keyboard operation, automatic record numbering, merge database, instantaneous filtering, prologue form, edit fields in any order, 2-across label printing. Full details available from Arnor.**

**Price: £85+VAT, upgrade from v1.1 £30+VAT.**

### PRICES (including VAT and delivery)

**For Commodore Amiga, Atari ST or TT.**

| | |
|---|---|
| **Protext 5.5** | **£152.75** |
| **Upgrade from 5.0 to 5.5** | **£30** |
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*Please return your original disks when upgrading*

| | |
|---|---|
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*When upgrading please return any extra spell checking dictionaries for a free update to the revised version.*

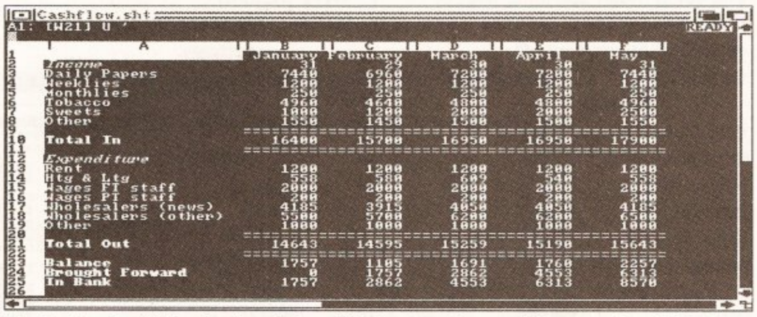
☆ **Both Protext 5.5 and Prodata require 1Mb of memory**

ARNOR

*Arnor Ltd (AS), 611 Lincoln Road, Peterborough PE1 3HA. Tel: (0733) 68909 Fax (0733) 67299*

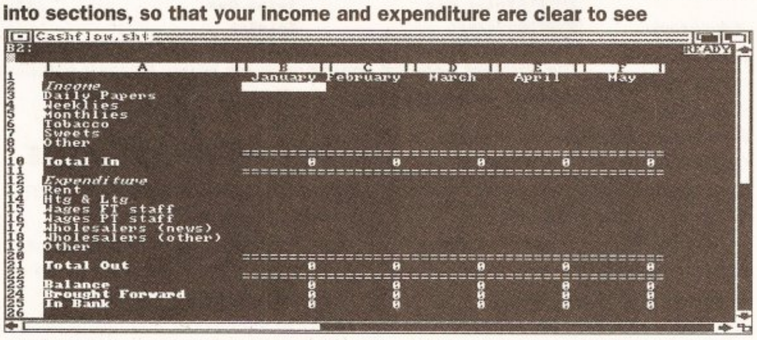
# How to beat your bank

## *In the second part of the spreadsheets tutorial, Mark Smiddy describes how to keep an eye on your profit margins*



|  | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 |  | January | February | March | April | May |
| 2 | *Income* | 31 | 29 | 30 | 30 | 31 |
| 3 | Daily Papers | 7440 | 6960 | 7200 | 7200 | 7440 |
| 4 | Weeklies | 1200 | 1200 | 1200 | 1200 | 1200 |
| 5 | Monthlies | 250 | 250 | 250 | 250 | 250 |
| 6 | Tobacco | 4960 | 4640 | 4800 | 4800 | 4960 |
| 7 | Sweets | 1000 | 1200 | 2000 | 2000 | 2500 |
| 8 | Other | 1550 | 1450 | 1500 | 1500 | 1550 |
| 9 |  | ========= | ========= | ========= | ========= | ========= |
| 10 | **Total In** | 16400 | 15700 | 16950 | 16950 | 17900 |
| 11 |  | ========= | ========= | ========= | ========= | ========= |
| 12 | *Expenditure* |  |  |  |  |  |
| 13 | Rent | 1200 | 1200 | 1200 | 1200 | 1200 |
| 14 | Htg & Ltg | 558 | 580 | 609 | 540 | 558 |
| 15 | Wages FT staff | 2000 | 2000 | 2000 | 2000 | 2000 |
| 16 | Wages PT staff | 200 | 200 | 200 | 200 | 200 |
| 17 | Wholesalers (news) | 4185 | 3915 | 4050 | 4050 | 4185 |
| 18 | Wholesalers (other) | 5500 | 5700 | 6200 | 6200 | 6500 |
| 19 | Other | 1000 | 1000 | 1000 | 1000 | 1000 |
| 20 |  | ========= | ========= | ========= | ========= | ========= |
| 21 | **Total Out** | 14643 | 14595 | 15259 | 15190 | 15643 |
| 22 |  | ========= | ========= | ========= | ========= | ========= |
| 23 | **Balance** | 1757 | 1105 | 1691 | 1760 | 2257 |
| 24 | **Brought Forward** | 0 | 1757 | 2862 | 4553 | 6313 |
| 25 | **In Bank** | 1757 | 2862 | 4553 | 6313 | 8570 |
| 26 |  |  |  |  |  |  |

**The finished article. As the picture illustrates, the cashflow can be divided up into sections, so that your income and expenditure are clear to see**



|  | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 |  | January | February | March | April | May |
| 2 | *Income* |  |  |  |  |  |
| 3 | Daily Papers |  |  |  |  |  |
| 4 | Weeklies |  |  |  |  |  |
| 5 | Monthlies |  |  |  |  |  |
| 6 | Tobacco |  |  |  |  |  |
| 7 | Sweets |  |  |  |  |  |
| 8 | Other |  |  |  |  |  |
| 9 |  | ========= | ========= | ========= | ========= | ========= |
| 10 | **Total In** | 0 | 0 | 0 | 0 | 0 |
| 11 |  | ========= | ========= | ========= | ========= | ========= |
| 12 | *Expenditure* |  |  |  |  |  |
| 13 | Rent |  |  |  |  |  |
| 14 | Htg & Ltg |  |  |  |  |  |
| 15 | Wages FT staff |  |  |  |  |  |
| 16 | Wages PT staff |  |  |  |  |  |
| 17 | Wholesalers (news) |  |  |  |  |  |
| 18 | Wholesalers (other) |  |  |  |  |  |
| 19 | Other |  |  |  |  |  |
| 20 |  | ========= | ========= | ========= | ========= | ========= |
| 21 | **Total Out** | 0 | 0 | 0 | 0 | 0 |
| 22 |  | ========= | ========= | ========= | ========= | ========= |
| 23 | **Balance** | 0 | 0 | 0 | 0 | 0 |
| 24 | **Brought Forward** | 0 | 0 | 0 | 0 | 0 |
| 25 | **In Bank** | 0 | 0 | 0 | 0 | 0 |
| 26 |  |  |  |  |  |  |

**Ruling off is one of the simplest of tasks, but best not to be skipped, as it does add readability by separating totals from the rest of the information**



**"A cashflow is a simple way to keep track of finances – here's how to do it..."**
**Mark Smiddy**

Mention a word like cashflow to the average small businessperson and you're likely to hear a deep groan. Cashflow forecasts involve dozens of fiddly little calculations; and because of the way they work, one simple error can throw the entire sheet completely off balance. That could mean insolvency or even bankruptcy.

Not surprisingly then, many businesspeople avoid doing cashflows, unless it's absolutely necessary, and work by educated guess. There's nothing wrong with this, provided you can guess accurately, but a well planned cashflow projection can help you spot trouble long before it arrives; often in the form of the bailiff's van!

The great thing with spreadsheets is that they are like cashflows waiting to be written. Typically, a cashflow shows a year's worth of monthly results divided into two sections – income and expenditure. Income is money from sales of goods, bank loans, liquidation of fixed assets and so on. Expenditure is anything the business spends: stock, heating, rent etc. Of course, every business is unique and the proportions of these vary – at the end of the day (or the financial year) the idea is to have made a profit.

The same applies to household expenses. The income comes from one or both partners plus, perhaps, some state finance such as Family Credit. Outgoings are similar; there are expenses such as mortgage, heating, lighting, food etc. At the end of the month, year or decade – the books have to balance in the black!

For the sake of example and to illustrate some of the principles, this feature concentrates on a fictitious new business – setting up a newspaper shop. In order to keep the whole sheet on a single screen, many of the profits and losses have been omitted. Although the actual data is nothing like real life, the way the sheet is constructed can be applied to almost anything.

### 1) SETTING UP

Any cashflow can be divided into three distinct sections: income, expenditure and summary. The income is the amount of money taken from all sources; the expenditure is the amount of money paid to creditors (eg landlord, HM Customs & Excise); the summary is the actual balance. Each of these appear once on the sheet for every month's projections. Certain types of income and expenditure may appear bi-monthly; quarterly or half-yearly. Such items are only entered under the month(s) they appear in but this does not affect the basic layout.

In these examples I will be concentrating on Gold Disk's *Advantage* and MMS's *Analyse 2* (*The Works! Platinum's* Spreadsheet module) so specific techniques will be highlighted as appropriate. The first job is to set up the text areas.

Starting at B1 and moving along the row enter the month names: January at B1; February at B2 and so on to December at M1. (For the sake of this example you can stop entering at May.) Don't worry about alignment or text styles at this stage.

You should notice that column A is actually much wider than normal at 21 characters. This allows for more descriptive names under income and expenditure. Here's how to do it:

***Advantage*** – Position the editing cursor anywhere in column A and select Column Width from the Options menu. Enter 21, press [Return] and Andy's your Editor.

***Analyse*** – Move the editing cursor to column A and enter:
/WCS21 [Return]

WCS21 – Worksheet; Column; Set Width; 21 characters.

Now enter the text down column A as shown in Figure 1 overleaf.

### 2) RULING OFF

This should be a fairly easy task but neither of the sheets featured here handles it particularly well. Ruling adds a certain degree of readability to a worksheet. The idea is to separate the totals from the rest of the information by placing repeated characters across certain rows: 9, 11, 19 and 21 in this case. The backslash character (\) is used to add rules. For instance, to add a row of dash signs you would enter:

\-

and a horizontal rule should make its way across the whole sheet.

***Advantage*** – *Advantage*'s backslash formatter divides a single screen (and it doesn't work very well either.) A more reliable method is to enter the rules manually. Enter the following in B9:

`=========

The tick (`) is vital or *Advantage* may get confused because the equals operator is normally followed by a function. Now copy the contents of the cell using [Right Amiga]-C and paste it to cells C9 through to N9. Now select the range C9..N9, copy it and paste it to: C11, C20 and C22.

***Analyse*** – *Analyse*'s backslash formatter just divides single cells, but the cut and paste options are faster than with *Advantage* in this case. Enter this in B9:

\=

and nine equals signs appear in the cell. With the editing cursor in B9 and enter:

/RC

(RC – Range; Copy). *Analyse* echoes:

Enter range to copy FROM: B9

Just press [Return] and *Analyse* will prompt:

Enter range to copy TO: B9..N9

### 3) TEXT ALIGNMENT AND STYLE

In the example, column A is set flushed left, which is default in most systems. To set the column flushed right:

***Advantage*** – Click once on the column heading A – this selects the

whole column. Now press [Shift]+[Right Amiga] + ">", the text moves to the right. [Shift]+[Right Amiga] + "<" moves it back.

***Analyse*** **–** Move the editing cursor to A2. Now enter:

/RLR

This expands to: Range; Label; Flush Right and should present a request like this:

Enter range of labels: A2

A2 is the first cell to be affected. You can select the range by dragging with the mouse or by marking the range with the down cursor key until the block reaches A25. The prompt will have changed to reflect this:

Enter range of labels: A2..A25

Finally, press [Return] to complete the operation.

Next, we need to centre headings.

***Advantage*** **–** Click on row one's heading – this selects the whole of the first row. Now press: [Shift]+[Right Amiga] + "^" and the month names should centre themselves above each column.

***Analyse*** **–** Move the cursor to B1 and enter:

/RLC

This expands to: Range; Label; Centre. Using the cursor keys, move the cursor to M1 and press [Return].

Finally, style. This is very much a personal thing – but careful use of a few styles and even colour can make a spreadsheet a lot easier to follow.

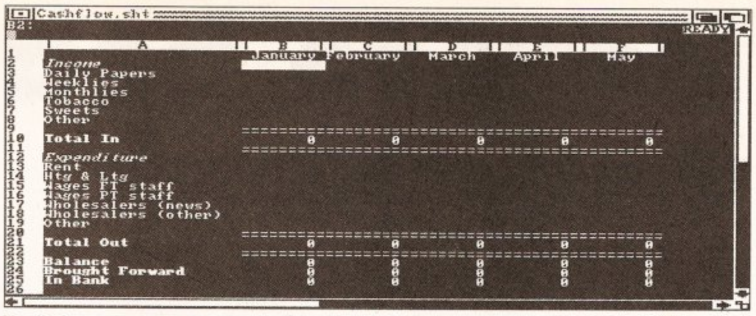
My personal preference is to set the minor row headings, Income (A2) and Expenditure (A12), in italics to separate them from the item texts; and the major row headings, Total In (A10) and Total Out (A21), in bold. *Advantage* supports colour so you could set income items (A3...A9) in blue and expenditure items (A12...A19) to red.

***Advantage*** **–** You can select these cells as blocks and change their style and colour from the Style and Pen Colour options.

***Analyse*** **–** This works in much the same way as before although cells cannot be coloured. Use the following range commands:

/RSB – Range; Style; Bold. (For Bold text.)

/RSI – Range; Style; Italic. (For Italic text.)




**Until the values have been entered, the Total In shows up as zero. All you need to do now is to enter the values and let the software do the rest**

## 4) FREEZING THE TITLES

Very few worthwhile spreadsheets can be fitted on a single screen and this could mean spending a lot of time working "blind" with the row and column titles scrolled off somewhere.

The solution is to fix one or more rows and one or more columns as titles so they are always displayed no matter where you are.

***Advantage*** – position the cursor at A1 and select Freeze Row and Freeze Column from the Options menu. A dotted line will appear showing the worksheet area separated off from the titles.

On the home screen, the titles appear twice so they can be edited – this has its pros and cons – personally I happen to prefer *Analyse's* method.

***Analyse*** – position the cursor at B2 and enter:

/WTH [Return]

/WTV [Return]

WTH: Worksheet; Titles; Fix Horizontal (Rows)

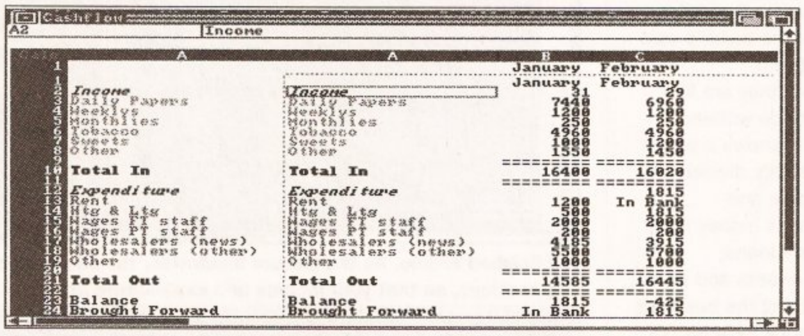
WTV: Worksheet; Titles; Fix Vertical (Columns)

Once the rows and columns have been fixed as titles, they are protected against accidental erasure.

If you need to edit them to put things back to normal just enter:

/WTC [Return]

WTC: Worksheet; Titles; Clear all settings

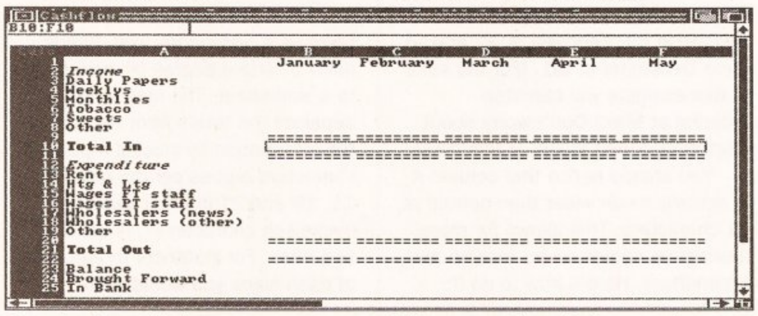



**The Brought Forward summary line is handy for your calculations, being the bank balance at the start of the trading period in question**

## 5) ENTERING FORMULAE

Calculation is where a spreadsheet comes into its own. Once the formulae have been entered, all you have to do is enter the values and the software does the rest. The example sheet contains formulae to calculate the total income and expenditure for each month and the projected bank balance. First the basic sums adding together the income and expenditure. Most spreadsheets use the standard statistical formula SUM to add together a range of cells.

This avoids the need for hopelessly involved constructs: (B3+B4+B5+B6+B7+B8).




**By selecting cells in a range, you can quickly copy a formula to your chosen cells. You don't have to type in the formula for each and every one**

***Advantage*** – Enter the following into B10:

=SUM(B3:B8)

*Advantage* will respond by placing a 0 in the cell – because the total of all the values in cells B3 to B8 is currently zero. Now copy the contents of B10 to the clipboard with [Right Amiga]+C and copy it to the row of cells from C10 through to M10. Do this using the Paste Relative function from the menu to ensure the cell references are resolved correctly. Move the cursor to M10 to check that its contents read:

=SUM(M3:M8)

Now enter the following into B21:

=SUM(B13:B19)

Copy and paste the formula into the row at cells C21 through to M21. Finally check the content of M21 reads:

=SUM(M13:M19)

***Analyse*** – *Analyse* works a little differently in that the copy and paste functions enable you to paste a block of cells directly. enter this at B10:

@SUM(B3:B8)

and this at B21:

@SUM(B13:B19)

Next, range copy the row of formulae. Position the cursor at B10 and enter:

/RC

*Analyse* echoes:

Enter range to copy FROM: B10

Press [Return] to get the prompt:

Enter range to copy TO: B10

Using the right cursor key, move one cell to left. Notice how the prompt changes to:

Enter range to copy TO: C10

Tap the full stop (.) key to lock the start of the range and move the cursor right until you reach M10. The prompt should now show:

Enter range to copy TO: C10..M10

Finally, press [Return] and *Analyse* copies the formula to all the selected cells – resolving the references as it goes. You can verify this by moving the cursor to M10 and checking it reads @SUM(M3..M8).

**continued on page 142**

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | January | February | March | April | May |
| 2 | **Income** | | | | | |
| 3 | Daily Papers | | | | | |
| 4 | Weeklies | | | | | |
| 5 | Monthlies | | | | | |
| 6 | Tobacco | | | | | |
| 7 | Sweets | | | | | |
| 8 | Other | | | | | |
| 9 | | | | | | |
| 10 | **Total In** | | | | | |
| 11 | | | | | | |
| 12 | **Expenditure** | | | | | |
| 13 | Rent | | | | | |
| 14 | Htg & Ltg | | | | | |
| 15 | Wages FT staff | | | | | |
| 16 | Wages PT staff | | | | | |
| 17 | Wholesalers News | | | | | |
| 18 | Wholesalers (other) | | | | | |
| 19 | | | | | | |
| 20 | **Total out** | | | | | |
| 21 | | | | | | |
| 22 | Balance | | | | | |
| 23 | Brought forward | | | | | |
| 24 | In Bank | | | | | |

**Figure 1**

**continued from page 140**

Repeat those steps at B21 and sum contents of the expenditure columns.

## 6) NEW BALANCE

In a conventional cashflow three lines make up the month-by-month summaries. Let's take these one at a time:

Balance= "Total Income" – "Total Expenditure"

Spreadsheets enable us to calculate these values very simply.

In the example worksheet, the required values appear as follows:

B10 = Total Income
B21 = Total Expenditure

Therefore:

Balance = B10-B21

So we can enter this in the worksheet at B23 (the balance line) like this:

***Advantage*** – =(B10-B21)

***Analyse*** – (B10-B21)

Note that in *Advantage* all formulae must be preceded by an equals sign.

The brackets tell the systems this is a user formula.

## 7) BROUGHT FORWARD

The brought forward summary line is a little more complex. It shows the amount of money in the bank at the end of the previous month. The first figure is special – it's the bank balance at the start of the trading year. We can ignore that for the moment and simply enter the cell reference for the previous month's balance.

Enter this at B24:

***Advantage*** – =(A25)

***Analyse*** – (A25)

• *Advantage* will echo the title at A25 in B24 – this is normal and it doesn't affect calculations at this stage because there aren't any!

## 8) IN BANK

The total amount currently in the bank is derived from the formula:

In Bank: Total Income" – "Total Expenditure") + "Last Month's Bank Balance"

Or, in spreadsheet terms:

B23 = ("Total Income" – "Total Expenditure")
B24 ="Last Month's Bank Balance"

Therefore:

B25 = B23-B24

which is entered at B25 like this:

***Advantage***: =(B23-B24)

***Analyse***: (B23-B24)

## 9) COPY THE SUMMARY

Now copy the three summary rows across the sheet like this:

***Advantage*** – Select the block of cells B23 to B25 and copy them to the clipboard.

Now use the paste relative function from the edit menu to copy the range to C23, D23 and so on. Continue right through to M23. Finally, nip back to B24 and enter a zero for the bank balance.

***Analyse*** – Move the cursor to B23 and enter:

/RC

Press down the cursor twice to select a range from B23 to B25. Make sure the prompt reads:

Enter range to copy FROM: B23..B25

Press [Return] and move the cursor right one cell to C23. Now tap the full stop (.) and move the cursor across to M23. Check the prompt reads:

Enter range to copy FROM: C23..M23

and press [Return]. This operation copies all the cell references for the summary line right across the sheet. Now, enter zero for the starting balance at B24.

## 10) ENTER THE DATA

The data for any cashflow has to be accurate to be of any worth. It's no use guessing at figures and giving yourself a false impression otherwise bankruptcy court could be just around the corner.

Fixed costs such as rent are easy enough to enter, but variables such as sales are more difficult. This type of business management is beyond the scope of *Amiga Shopper*, but we can point you at some of the techniques.

To keep it simple, let's assume our shop opens seven days per week and closes on bank holidays such as Christmas and New Year. This will affect sales on those days so under each month we can add the number of trading days, then use that figure to calculate the approximate sales per day of each item.

The figure can also be used to estimate other costs such as stock and resource (heating and lighting) usage.

First of all then, we can insert the number of days in each month B2..M2 just under the month titles.

Next we can enter the formulae. For instance, let's assume the shop sells 800 daily papers per day at an average cost of 30 pence each. The formulae at B3 would be:

***Advantage:*** =(0.3*800*B2)
***Analyse:*** (0.3*800*B2)

This can then be copied across the rest of the column in the usual way. Much the same thing can be applied to the remaining variable costs across the rest of the sheet – until you end up with the effect shown.

Finally, before starting to experiment with your sheet ensure the calculation takes place by columns. Otherwise the sheet will not be updated correctly because some calculations will be based on aged data.

In *Advantage*, columnular recalc is set from the preferences screen; in *Analyse* use the sequence:

/COR

You might like to try this for yourself. Select Recalc by Row and make a few changes to column B. Now force the spreadsheet to recalc and watch how the values keep changing as the aged data effects the later columns.

## 11) HOUSEHOLD SHEETS

All this may sound removed from household finances – but running the household accounts is just like running a business.

The income and expenditure headings may well have different names – such as wages, child benefit, gas bill, mortgage, but they have the same effect in the long run.

You could try converting this example spreadsheet to examine your household affairs. Who knows, you may even be able to make things balance. AS

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## *What do you need from a business package? Pat Winstanley helps you to find out...*

It's no use splashing out on any software, not even a cheap bundle, unless you can see some use for most of the modules included. Such uses could be writing letters, keeping address lists and balancing your bank accounts. Those activities will be adequately handled by any of the packages here. But what else takes your fancy? Do you hanker to use a modem and contact bulletin boards where you can chat to enthusiasts and get hold of the latest PD software? Perhaps you'd like to produce newsletters on your Amiga. Maybe you want to see how data can be transferred between applications and displayed as graphs.

Each of the packages reviewed offers excellent value for money with individual modules costing between £10-30. The beginner who may go no further will have lots of fun messing about, while those who want to make use of the software (perhaps for a small business) will be able to experiment and learn without a dent in the wallet. None of the programs are particularly sophisticated, and all are easy to get to grips with. And if you find they are inadequate for your needs, you'll have an idea of which features you require when upgrading to a more professional standard.

### GOLD DISK OFFICE

This package consists of five programs covering the functions needed by any small business, but is simple enough for home use too. All the programs can be run independently but can also be run together using multi-tasking if you have sufficient memory. Thus *Write* and *Page* can be used, as can *File*, *Calc* and *Graph*. In each case, data from one can be used in another.

*Office Write* is a fully featured wordprocessor which is simple to use and boasts facilities like spell checking, mail merge and keyboard macros (storing a string of commands which can be accessed by a short keypress sequence). *Write* itself can be multi-tasked so that several text windows can be open and in operation at once. Thus one document could be printing out while another is edited. This system also makes cutting and pasting between documents simple.

To go with *Write* is *Office Page* – a desktop publishing program. This integrates well with *Write* for text editing. *Page* uses Compugraphic fonts for high resolution output and includes full PostScript support. IFF graphics can be imported or drawings can be created using *Page*. For laying out, a complete set of tools is available such as snap-to, grid and ruler. It may take time for the novice to master *Page*, but once the program is familiar its flexibility will repay the time spent.

*Office File* is a flat file database which has plenty of flexibility and power. While offering the usual sorting and searching facilities of a database it has features not usually found in cheaper programs. Thus ARexx support is available, as is the ability to act almost like a spreadsheet in the use of formulae in fields. With up to 254 characters per field, 256 fields per record and 32,767 records per file you won't be limited by anything but memory.

Working either in tandem with *File* or on its own, *Office Calc* is an excellent spreadsheet. Again ARexx support is available for spreadsheet programming together with over 100 functions. It also features intelligent recalculation. *Write* can be used with *Calc* for adding notes to cells and memory again is the only constraint on file size with 32,000 rows by 32,000 columns available for use.

*Office Graph* can use data from both *Calc* and several other popular spreadsheets to create charts in several forms. The resulting pictures can then be saved as IFF or structured clips for import into *Page*.

Overall this suite of programs is ideal for anyone who wishes to transfer data back and forth between applications, and present the results in a professional manner.

### THE WORKS! PLATINUM

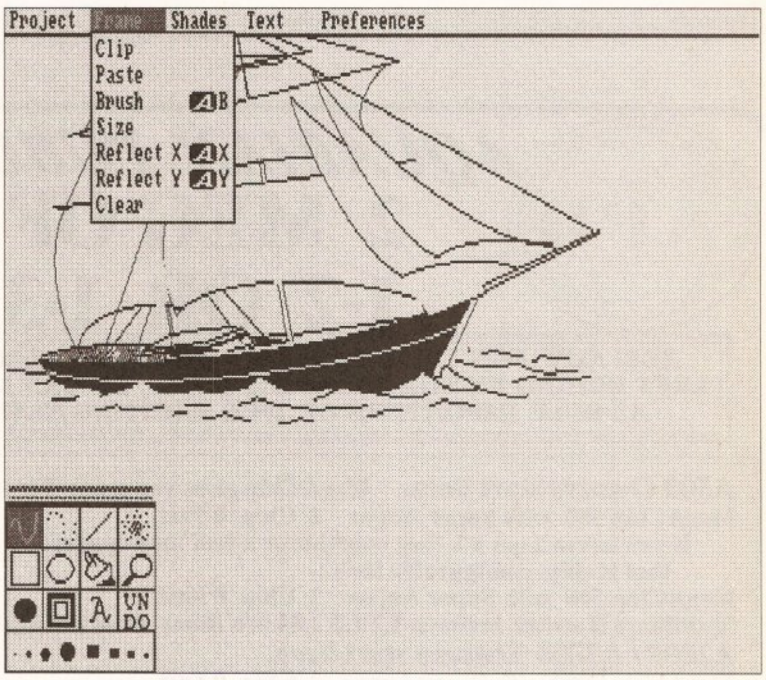
This is the only package to offer a comms program. It's well integrated too. The modules are accessed from a single menu and the manual is well laid out with beginners' and advanced sections in its 500 odd pages. All the modules use a similar control method, so learning to use one makes operating the others easier. The clipboard is available to all the modules so data can be cut and pasted between them at will.

The word processor has just about every function needed by the beginner and advanced user. It doesn't support fancy fonts, but can import graphics to give your documents that touch of class. The dictionary is adequate for most people with 104,000 words and the facility to build a user dictionary. Other features include a thesaurus, word count and mail merge.

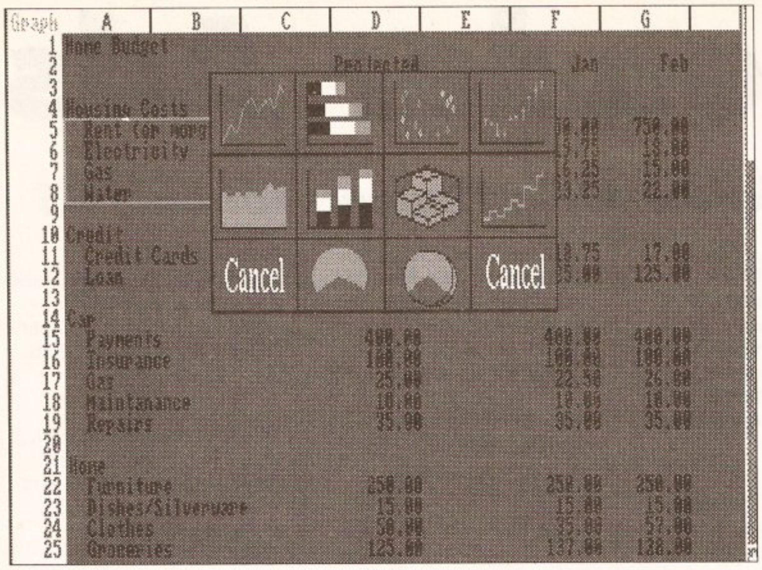
A flat file database is included which boasts up to 128 fields and 4.2 billion possible records. The database manager integrates with dBase file-compatible products and exports data for mail-merge in an ASCII format, allowing easy transfer to other applications. A form designer is also included so fields can be arranged however you like. This can be useful if you want another user to access only parts of your data. A good range of mathematical operators are available in both the database and spreadsheet allowing calculations to be performed on numerical data, and various logical operators make filtering data easy.

The spreadsheet module also has the ability to import and export data, in this case the file compatibility is with *Lotus 123*. Eight different graph types are available in up to eight colours, although these do eat memory. With a complete macro language rounding off the facilities, this spreadsheet has

continued on page 147




**Find *Artist's Choice* in the *Home Office Kit*: it offers a good choice of clip art which is easily integrated with the DTP program *Page Setter***



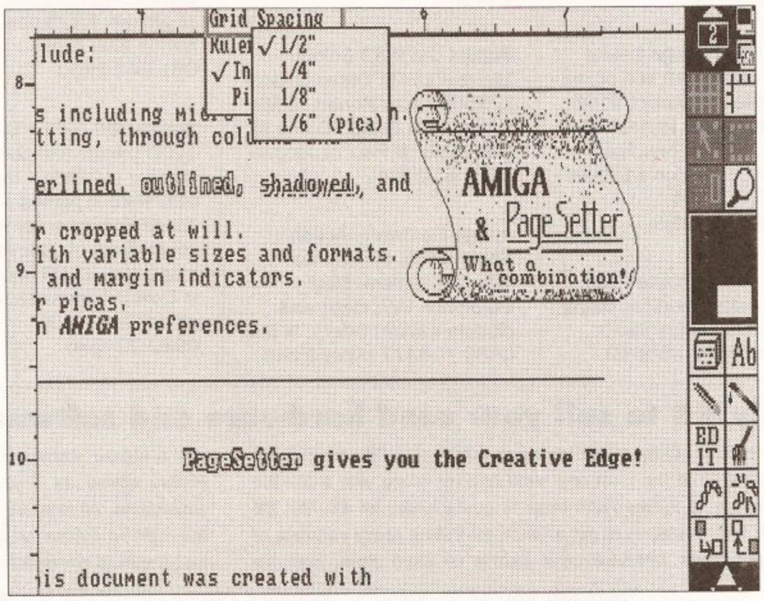

**Hit the top of the charts with *Office Graph*, part of the *Gold Disk Office* bundle. Data can be incorporated from several popular spreadsheets**

continued from page 145

virtually anything the home or small business user is likely to need. Furthermore when you wish to print out your spreadsheet data, the sideways printing utility will save manual sticking together of sheets.

Rounding off the package is a comms program which not only allows you to go on-line but includes its own script language. This works in much the same way as AmigaDOS scripts, stringing commonly used sequences of commands together into a program to save typing individual instructions one by one every time. The benefits of this, when on-line, is that the script will execute much faster than you are likely to be able to type, thus saving precious telephone time as you log-on, access files and so on, then log-off again, all automatically.

If you can live without fancy fonts this no-nonsense fully featured bundle has everything you need to start off as a serious software user. In fact you are unlikely to need to upgrade for several years, if at all. This package presents excellent value for money.




***Page Setter*, part of the *Home Office Kit*, comes with a good variety of fonts and type styles; it's ideal for those new to DTP or those on a limited budget**

## THE HOME OFFICE KIT

Unlike the integrated nature of *The Works!*, *Home Office Kit* is a collection of programs and utilities aimed more at presentation than sheer text and number crunching.

*Kindwords 2.0* is the wordprocessor. Offering the usual features, it works well in its way. However, it is by far the most unfriendly program of its type. The difficulty is lack of speed. Having said that, graphic import is easy but page layout is not. In this bundle, page layout is handled by *Page Setter* so that's not a problem. The saving grace is the dictionary and thesaurus for poor spellers.

*Infofile* is a simple database, capable of storing, sorting and retrieving data but very little else. It includes a basic form designer, but on the whole is too inflexible to be of much more use than a bound address book. It can dial the phone for you though. Set the program to retrieve the number you want then hold the receiver next to your monitor's speaker. The program will then emit the necessary tones to make a connection. Bizarre!

*Maxi Plan Plus*, the spreadsheet of the bundle, is more versatile than *Infofile* – in fact it is a better bet for database operation. It has range of mathematical and logical functions (over 70) and with 512 columns and 32,760 rows offers plenty of scope for spreading out. Clipboard operations are supported for pasting data between multi-tasking programs. *Lotus 123* files can also be used with direct compatibility for both import and export. A range of graph types may be generated from simple bar charts to 3D pie charts.

*Page Setter* is a simple desktop publishing program for the novice who fancies a dabble or the user who can't justify the price of a top class package, it should perform adequately. The addition of the Cale Fonts disk adds variety to the text display, while *Artist's Choice* offers a good variety of clip art. Both text and graphics can be generated within *Page Setter*, but separate word processors and graphics packages are generally easier to use and their results can then be imported into the DTP program. Also included in this package is a utility which enables *Page Setter* documents to be converted into PostScript format for output to laser printers.

*The Home Office Kit*, while usable for the small business at a pinch, is really more suitable for the home hobbyist who has the time and patience to fiddle about. The tools are there to perform most functions of serious software but they tend to bend and wobble a little during use – rather like a rubber screwdriver might. Good value if you are a dabbler and don't want to get too involved in the power stakes.

## SUMMARY:

Both *Office* and *Works!* are well integrated, well featured packages. The emphasis in *Works!* is solid data processing while the *Office* package leans more towards presentation. The *Home Office Kit* is ideal for absolute beginners. Although it is nowhere near as simple to use as the other packages it gives a good taster of the variety of serious software available and many casual users will probably never need anything more upmarket. AS

## RATINGS AND FEATURES

| | Works | GD Office | Home Office |
|---|---|---|---|
| Word Processing | 4 | 4 | 2 |
| Database | 4 | 4 | 2 |
| Spreadsheet | 4 | 4 | 3 |
| DTP/Page publishing | N/A | 4 | 3 |
| Graphics/display | N/A | 3 | N/A |
| Comms | 3 | N/A | N/A |
| Sideways Print | 3 | N/A | N/A |
| Clip Art | N/A | N/A | 4 |
| Fonts | N/A | N/A | 3 |
| Overall | 4 | 4 | 3 |

## SHOPPING LIST

**Gold Disk Office** .................... £130
**The Works! Platinum** ............... £90
by HB Marketing
Unit 3, Poyle,
14 Newlands Drive
Colnbrook, Slough
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☎ 0753 686000

**Home Office Kit** ....................... £70
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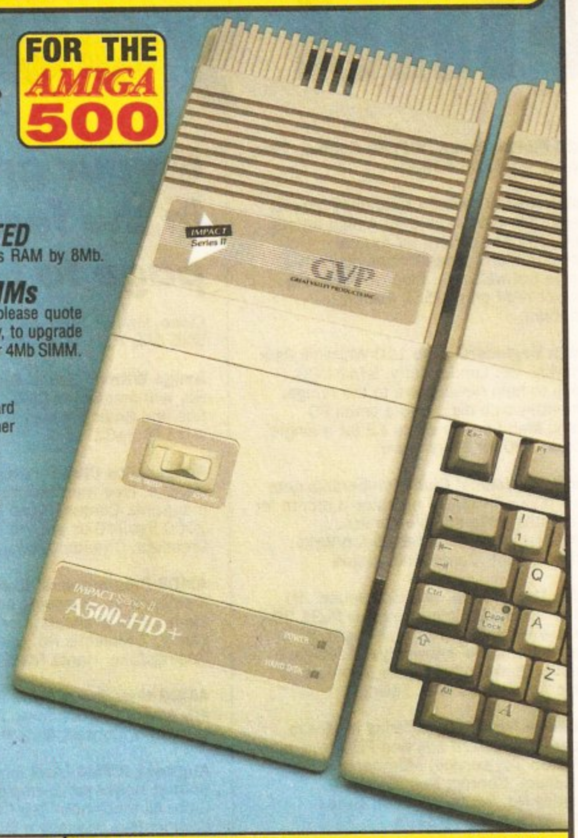
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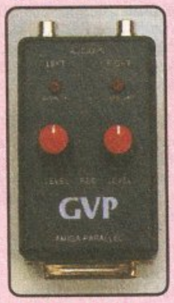
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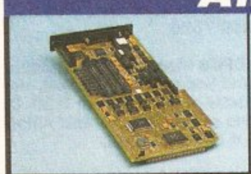

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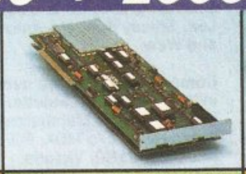


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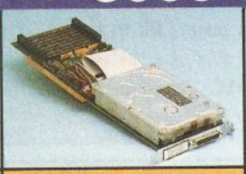


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**Amiga Artists Club** 34 Roundhay Mount, Leeds LS8 4DW. A club for Amiga artists, musicians and coders for mutual assistance and programming demos. Pirates not welcome. Free membership. Contact KAM on ☎ 0532 493942, 5pm-8pm.

**Amiga Beginners' Club** 110 Whitehill Park, Limavidy, Co. Londonderry, BT49 0QG. A club to help newcomers to the Amiga. Bi-monthly club disk, and a small PD library. Membership costs £2 for a single disk, or £20 for every issue.

**Amiga Musicians' Club** Membership gets you a disk with 50 IFF samples a month for 12 months. Also sample service. Membership £30. Contact Gavin Wylie, Guthrie Street, Carnoustie, Angus.

**Amiga Users' Klub**, Windsor House, 19 Castle Street, Bodmin, Cornwall PL31 2DX. Meets every Friday from 6.30-9pm, to expand members' knowledge of Amiga computing and to help solve people's problems. Contact Jack Talling.

**Amiga UK** Newsletter offering reader to reader advice. Free ads and PD library plus DTP scanning service. Membership £10 per annum. Contact Ken Harvey, 67 Waverley Rd, South Benfleet, Essex SS7 4AX ☎ 0268 793973.

**Amiga Users Group - FYLDE** Advice on Amiga, meetings to be arranged, discussion groups etc. Free membership. Contact Andy Wilkinson, 25 Gleneldon Rd, Lytham St Annes, Lancashire ☎ 0253 724607.

**Amiga Video Producers' Group** Meets quarterly in Swindon. For info pack send large SAE to Jim Strutton, 8 Rochford Close, Grange Park, Swindon, Wilts SN5 6AB ☎ 0793 870667.

## *If your group isn't mentioned, fill in the form at the bottom of the page to let us know about you*

**Amiga Witham Users' Group** 85 Highfields Rd, Witham, Essex CM8 1LW. Distributes tips and Basic programs. Keith Anderson ☎ 0376 518271.

**Amigaholics Club** For beginners and some experts. Free membership. Own disk magazine. Contact Kevin Bryan ☎ 071-580 2000 Ext 240 or write to 29 Wolfe Crescent, Charlton, London SE7 8TS.

**AMOS Programmers' Exchange** Free membership. Swapping software and ideas. Help available. Contact James Lanng, 7 Majestic Rd, Hatch Warren, Basingstoke, Hants RG22 4XD

**AMOS User Group** Swap ideas, help on any AMOS subject, swap PD and own creations. Contact Andy ☎ 0323 26790

**Anglesey ICPUG** Meet every Monday 6pm-9pm at Holyhead Unemployed Workers Club. All machines from C64 to Amiga. Contact Nick Massey ☎ 0407 765221.

**Avon Micro Computer Club** Graphics and animation, business and the chance to speak to professional users. £3 per annum. Contact Roger for more information: 95 Downend Rd, Horfield, Bristol ☎ 0272 513224.

**Ayr ICPUG** Meets at Radix Training Centre, West Sanquhar Road, Ayr. Contact John Smith ☎ 0292 261408 Ext 202.

**Basic Programmers' Group** 68 Queen Elizabeth Drive, Normanton, West Yorkshire WF6 1JF. Encourages the use of Basic, exchanges ideas and assists beginners to the language. Free newsletter from Mark Blackall ☎ 0924 892106.

**Bury St. Edmunds ICPUG** Contact Alan Morris ☎ 0359 51446.

**Buxton ICPUG** Contact Peter Richards on ☎ 0298 23644.

**CanDo User Group** If you are interested in helping start one to swap applications, hints, via disk, newsletter and occasional meetings send an SAE to John Ransley, 3 Berry Close, Telscombe Cliffs, Peacehaven, E Sussex BN10 7DW.

**Chester-le-Street 16-Bit Computer Club** Ground floor function suite, The Civic Centre, Newcastle Road, Chester-le-Street. The club meets every Monday from 7.30-9.30pm to see each others' software, exchange advice and swap tips. Contact Peter Mears ☎ 091-385 2939.

**CDTV Users Club** Exchanging views on software and hardware. Contact Julian Lavanini, 113 Fouracres Rd, Newall Green, Manchester M23 8ES.

**Chic Computer Club** Full details with an SAE to STAMP, Chic Computer Club, PO Box 121, Gerrards Cross, Bucks. Contact Steve Winter ☎ 0753 884473.

**Club Amiga** Membership of this national group costs £10 a year for PD software and a 24-hr telephone helpline service (091-385 2627). For more information send an SAE to Chris Longley, 5 Bowes Lea, Shiney Row, Houghton Le Spring, Tyne and Wear.

**Comp-U-Pal** Australian user group for users in the outback. Newsletter, phone help line, PD library. Membership A$24. Write to Comp-U-Pal, c/o MDA, PO Box 29, Knoxfield 3180, Victoria.

**Computer Club** 16 Laton Road, Hastings, East Sussex ☎ 0424 421480. A 16-bit club dedicated to being computer enthusiasts without being pirates. Membership costs £15 per year, and the club has discounts with several local firms.

**Coventry ICPUG** Meets on the first Wednesday of the month. Bring your computers. Contact John Orange ☎ 0203 689635.

**Disabled Group (ICPUG)** Contact David Bate, 71 Bedford Road, Bootle, Merseyside L20 7DN.

**Dublin ICPUG** Meets fortnightly on Fridays (except August) at St Andrews College. Covers all Eire, 36-page newsletter. Discounts arranged. Contact Geoffrey Reeves ☎ 010 353 12 883863.

**Edinburgh Amiga Group** Membership £5, includes free advice and PD. Contact Neil McRea, 37 Kingsknowe Road North, Edinburgh EH14 2DE with SAE.

**Edinburgh ICPUG** Contact Martin Lowe, Amiga Centre Scotland ☎ 031-557 4242.

**Hereford Amiga Group** Membership free, help for beginners, exchange of PD and shareware. Linked Amiga stunt car racer championship. For more details contact John Macdonald, Alma Cottage, Allensmore, Hereford HR2 9AT ☎ 0981 214 14.

**Imagine Users' Group** To encourage use of Imagine and other ray tracers. Affiliated to US group. Object library. Membership free. Contact Brian Walker, 16 Cambridge Road, Newton Cambridge CB2 5PL.

**Independent Commodore Products Users' Group** Biggin Hill Library, Church Road, Biggin Hill, Kent. Meets most Thursdays from 7.45-9.45pm. There are lecture nights and open nights where members can get help. See also regional entries. Contact John Bickerstaff after 8.30pm ☎ 081-651 5436.

**Macclesfield ICPUG** Meets at The Harlequin Club, Chestergate, Macclesfield, every Tuesday from 8-11pm. Contact Peter Richardson ☎ 0298 23644.

**Mid-Thames ICPUG** Meets at Cox Green Community Centre, SW of Maidenhead, on the second Thursday of the month at 7.30. Open nights and some talks. Newsletter. Contact Mike Hatt ☎ 0753 645728.

**Pennine Amiga Club** 26 Spencer Street, Keighley, West Yorkshire BD21 2BU. Offers free membership, free advice, and circulates a newsletter. Contact Neville Armstrong ☎ 0535 609263.

**Public Domain User Group** Swaps PD between members, provides advice and reviews of PD. Basic membership free, advanced £3 per year for newsletters and price reductions. SAE to 12 Oxford Road, Guildford, Surrey GU1 3RP.

**Slim Agnus** 115 Brocks Drive, North Cheam, Sutton, Surrey SM3 9UW. Meets on the last Thursday of the month. PD library, bulletin board, advice from Amiga experts. Contact Philip Worrel.

**Software Exchange Service** 13 Bournville Lane, Stirchley, Birmingham, West Midlands B30 2JY. Offers a forum for exchanging old, unwanted games for a small price. Contact Michael Pun ☎ 021-459 7576.

**Solent ICPUG** Meets at GEC Aerospace Sports and Social Club, Titchfield, Hants, first Tuesday of the month at 7.30. Open nights and some talks. Contact Anthony Dimmer ☎ 0705 254969.

**South West ICPUG** Meets second Sunday of the month at Queens Arms Hotel, Charmouth, Dorset, at 10am. Bring your computers. Some talks. Contact Peter Miles ☎ 0297 60339.

**Stevenage ICPUG** Meets at Hertford Road Community Centre, Stevenage, last Friday of the month at 7.30pm. Contact Bob Grainger ☎ 0438 727925.

**Watford ICPUG** Long-standing club with friendly atmosphere. Meets third Wednesday of the month, 7.30pm St Thomas Church Hall, Watford. Membership £15. Contact Mark Pryor ☎ 0442 864234.

**WCSPSA!** Help available. PD disk of your choice and newsletter every month. PD at £1. Membership fee £25. For information contact A Jamieson ☎ 0749 677609

**West Riding ICPUG** Meets at the White Horse Inn, Fall Lane, East Ardsley, Wakefield, first and third Tuesdays at 7pm. Open nights. Minibus to London shows. Contact Kevin Morton ☎ 0532 537318.

**Wigan ICPUG** Contact Brian Caswell ☎ 0942 213402.

**Wrexham District Computer Club** PD, library of books, equipment loan. 10p to join, plus 50p to get in. Held in Memorial Hall, Wrexham every Thursday, 7-10pm. Contact Paul Evans, 3 Ffordd Elfed, Rhosnesi, Wrexham, Clwyd LL12 7LU.

## GET YOURSELF LISTED

**If you run a user group which isn't listed on this page, fill in the form below for your free entry. Send it to *Amiga Shopper* User Groups List, 30 Monmouth Street, Bath BA1 2BW. We reserve the right to refuse entries.**

AS10

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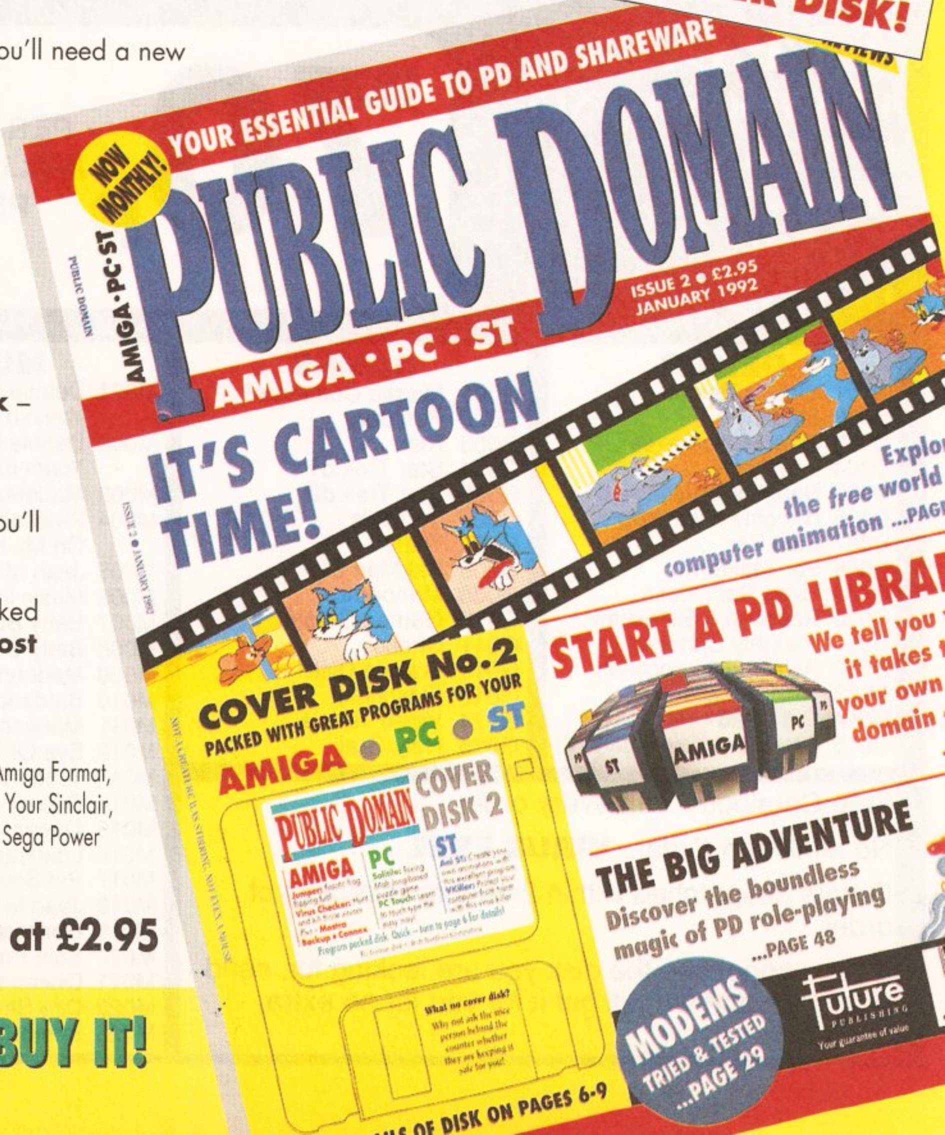
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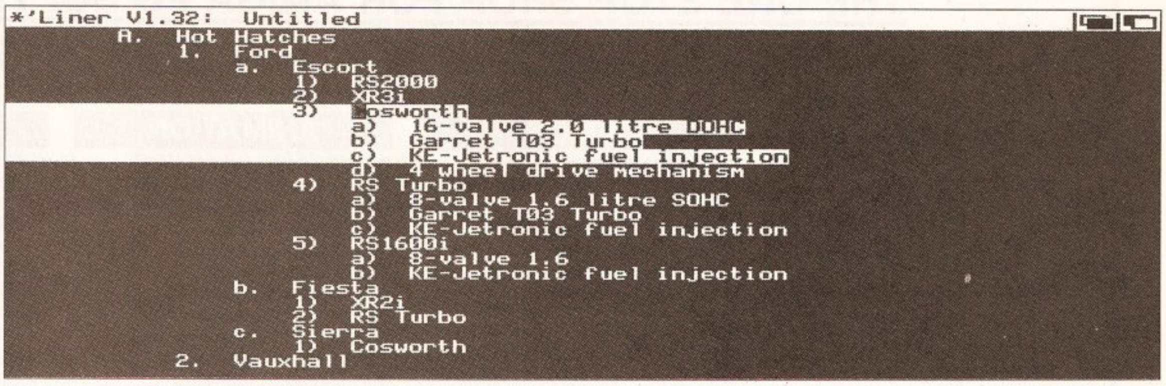
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**Jason Holborn**




**Organise your thoughts with *Liner*, a freely distributable outline processor along the same lines as New Horizon's *Flow***

It's been a funny month. Just when I thought Amiga PD programmers were starting to tire of coding all those boring demos, I get packs and packs of the damned things sent through. There's no doubting that many of them are very impressive, but when you've seen one, you've seen 'em all!

Mind you, that's not to say there's no decent utilities out there as well. The quality of many of the utilities available is so high that it often makes me wonder why people bother buying commercial software at all! With so many quality word processors, databases and graphics packages available for the price of a disk, anyone can build up a respectable collection of software for the price of an average game.

The big news in the PD world at the moment is the impending release of *SID 2*, the latest version of Tim Martin's brilliant directory utility. According to the lucky few who have actually seen it, *SID* now boasts a very swish Workbench 2 user interface complete with bass relief graphics. Of course it goes without saying that we'll be reviewing it in full as soon as Tim decides to release it.

## Jason Holborn continues his look at the vast amount of utilities available for the price of a disk

## UTILITIES

### SNAP 1.4

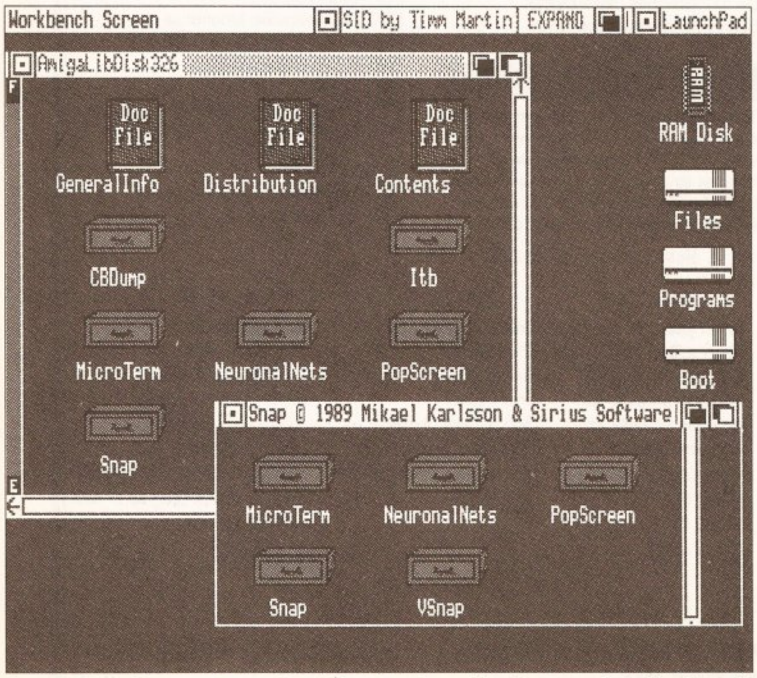
**Fish Disk 326**

The Amiga's clipboard device has never really been exploited by programmers, but one very clever guy who certainly knows how to get the very best from it is Mikael Karlsson from Sweden. He's come up with a program which could be the answer to every lazy typist's dream – that program is *Snap*, a versatile yet easy to use utility for snapping graphics and text from other applications.

You're probably wondering what's so special about *Snap* – after all, screen grabbers are ten a penny these days – but no, *Snap* isn't just a simple screen grabber. Sure, it can grab graphics and save them to disk in IFF format, but in *Snap* even this relatively simple task is taken one step further. What's so special about *Snap* is that whenever it grabs something, it is stored in the Amiga's clipboard device, therefore allowing other applications to gain access to the clipped data. Unfortunately, very few paint packages use the clipboard (*Express Paint* is the only one that I can think of!), but this feature comes into its own when clipping text.

Instead of just clipping the text as an IFF image (like most programs), *Snap* interprets the text displayed on the screen and turns it back into ASCII text. You can then either pull the text in directly from the clipboard or just press the left Amiga key and 'i' and *Snap* inserts the text automatically. A program like *Snap* could save you hours of typing,

continued on page 158




***Snap 1.4* enables you to grab both text and graphics from any Intuition-based application with the utmost of ease**

## BEGINNERS START HERE

***Software for free?***

**This may sound like a call to piracy, but public domain software is free to anyone. There isn't any catch, unless you count the fact that there is so much PD software on offer that it's hard to choose what you're going to have.**

***But what does PD mean?***

**The public domain concept was borrowed from the early days of mainframe systems, where enthusiasts (called 'hackers' then, before the word had less pleasant connotations) produced programs and distributed them to their friends and fellow hackish types, asking for no payment but the status of being recognised as a truly hackish coder.**

**The copyright was waived by the author, and so the program was said to be in the public domain – that is to say, any member of the public had a right to copy and use the program however they wished, provided that the author's credit and any relevant documentation was distributed with the program.**

***So how can I get hold of all this wonderful free PD?***

**Either buy it from a PD library or, if you've got a modem, download it from a bulletin board. These are computers with modems, which anyone can use a phone and modem to log on to, download a lot of demos and utilities, leave a few messages and programs of their own and log off. You'll find that there are many bulletin boards with Amiga files available for download.**

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STAR TREK....2 disk space voyage
NO MANS LAND (1meg) 2 player shoot out
SHAPES (1 Meg)....addictive puzzle game
MEGABALL ....a great game of breakout
POWER PONG ....tidy tennis type game
LAZER-ZONE....arcade blast em!
CHINA CHALLENGE ....addictive puzzles
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HOLLYWOOD TRIVIA....an interesting quiz
TILE TRAIL (1meg)....tidy puzzle game
PIXIE KINGDOM....2 disk arcade quest
SEA LANCE ....strategy at sea
POM POM....a very good blast em game
TWINTRIS ....tetris for two
LIGHTS OUT .be a vandal & avoid the cops
LLAMATRON ....a great Jeff Minter game
PROJECT 1 ....blast the enemy
SEVEN TILES ....futuristic football game
TRICKY ....a tidy puzzle game
BLIZZARD ....an arcade type space game
JEOPARD (1 meg) ...classic strategy game

**SLIDESHOWS**
THE INVISIBLE WORLD ....very interesting
NETWORK ....superb art
NAGELESQUE ....brilliant artwork
DEMONS III ....great music & pics
HYPERDISK 1 ....good pics and story
AMEGA PARTY GRAPHICS..neat comp piccys
APOLS DIGISHOW....tidy digitised pics
NEPTUNE PIX....2 disks of satellite pics

**DEMOS**
SKIZZO (1 meg) ....entertaining 2 disker
PARTY SCHMOCK (1meg) neat demo comp
ENIGMA ....good phenomena demo
REBELS COMA (1meg) ....brill classic
SIMPLE STUFF (1 meg)....not at all simple
PULLING THE TRIGGER (1meg) ....love this
BEATLES DEMO (1meg)...unusual 2 disker
REBELS MEGA II....neat gfx
PLASMUTEX ....the greatest plasma
DIGITAL INNOVATIONS ....nice one anarchy
DECAYING PARADISE (1meg) great vectors

**UTILITIES**
HAM RADIO UTILS....17 disks to choose
N-COMM V1.921 .a very good comms disk
OPTI UTILS 2 ....with diskmaster V3.2
PCQ PASCAL ....a pascal compiler
A68K ....68000 assembler
KWICKBACKUP....hard disk backup
M.V.K. V2.1....virus killer
ZERO VIRUS & BOOTX V4.10 ..good killers
A64....a C64 emulator
ST EMULATOR ....English version
SPECTRUM EMULATOR....oh! memories
STARTREKKER ....4/8 track editor
TEXTPLUS 2.2E ....nice word processor
ARP V1.3....some useful commands
SID V1.6 ....the best directory util
AMIBASE V3.67 ....very good database
ELECTRO CAD....design your circuits
M-CAD ....amiga cad program
NOISEPLAYER V4 ....a great module player
FLEXIBASE V2.00....neat database
C MANUAL V2.00 ....all you need for C
MED V3.11 ....new version music editor
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**MUSIC**
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STAR DREK ....2 disk comedy
JOURNEY INTO SOUND ....and so it is
AXIS....select those tracks in style
VOGUE CD PLAYER .looks and sounds good
VIVALDI ....2 disk classical
BABY SITTIN BOOGIE .funny sampled song
DON'T PANIC ....great sounds from LSD
FLASHING BYTES ....brilliant

**ANIMATIONS**
BUZZED (3meg) ....amusing 3 disk anim
NEWTREK (1meg) ....tidy starship flight
PUGGS IN SPACE ....cute little alien
ANTI LEMMIN (2meg) ....got to be the best
TIRRENO (1meg)....good ray traced anim
HIGHLANDER SWORD (1meg)....film action
SHUTTLECOCK (1meg) ....very amusing
TERMINAL (1Meg)....doctor help
TRACKBALL (1meg) ...tidy ray traced anim
THE BOINGS (1meg) .cute ray traced guys
CONGAMAN (1meg) ....beat dem drums
DOCTOR A (1meg) ....good sculpt anim

# Crazy Joe's

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- 680 **LEARN & PLAY (2) (P)** maths, words and colouring for kids.
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- 766 **TREASURE HUNT (NP)** pirate treasure map game for kids.
- 957 **PIPELINE (P)** assemble your pipe quickly to keep the oil flowing.
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- 987 **SNAKEPIT (P)** eat the food in the maze without eating yourself.
- 991 **JEOPARD* (P)** 2 player game of world conquest.
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- 1577 **FRUIT MACHINE* (NP)** best fruit machine simulator bar none.
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- 1670 **WHEEL OF FORTUNE (P)** based on the TV show.
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- 1926 **NAPOLEONIC WARFARE SYSTEM*** war game umpire.
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- 2013 **ZEUS (P)** simple but addictive puzzle game.
- 2014 **CUBULUS (NP)** 2 dimensional Rubik's Cube game! Excellent!
- 2016 **DOWNHILL CHALLENGE** fun on the ski slopes.
- 2018 **WIZZY'S QUEST*** wizard fun! Excellent game!
- 2049 **MATHS DRILL** maths exerciser for all ages.
- 2050 **INSIDERS CLUB*** good stock exchange simulation.
- 2051 **ATIC ATAC*** explore and collect arcade game.
- 2052 **SHAPES** addictive puzzle fun!
- 2057 **BATTLE PONG*** 1 or 2 player arcade classic.
- 2155 **GHOST SHIP** 3D arcade adventure.

## DEMOS AND ANIMATIONS

- 747 **POPEYE MEETS THE BEACHBOYS** very funny!
- 773 **SHARK ANIMATION*** deadly ray-tracing!
- 825 **BUDBRAIN 1 (2) (X)** great 2 disk demo + naughty bits!
- 895 **A TRIP TO MARS** demo with a difference.
- 906 **MADONNA CARTOON ANIM*** short digitised animation.
- 935 **MADONNA: HANKY PANKY** excellent Madonna sample.
- 1033 **AT THE MOVIES**** loves of a squirrel?
- 1188 **FILLET THE FISH** funny cartoon.
- 1229 **BUDBRAIN 2** good as the first one? You judge!
- 1238 **EVIL DEAD DEMO (X)*** get them before they get you!
- 1453 **MORE AEROTOONS*** 3 Schwartz classics.
- 1540 **AMY VS. WALKER ANIM*** Eric Schwartz at his best!
- 1541 **BATMAN ANIMATION*** funny Schwartz animation.
- 1552 **MAGICIAN ANIMATION 2*** simply magic!
- 1560 **PHENOMENA ENIGMA*** suberb grx and music.
- 1628 **DO THE BART, MAN*** a must for all Simpsons fans!
- 1701 **TRON ANIMATION (2)*** based on the film.
- 1707 **DECAY: SIMPSONS DEMO*** should appeal to everyone.
- 1753 **LIFE OF BRIAN (2)** sample from the film.
- 1841 **ANTI LEMMIN' DEMO (2)**** for Lemmings fans with 2 meg.
- 1850 **THE WALL (6) (2D) *** mammoth Pink Floyd six disker!
- 1856 **BETTY BOO ANIM/SLIDESHOW** doing the Amiga.
- 1885 **ROBOCOP ANIMATION*** digitised from the film.
- 1900 **SILENTS: ICE DEMO** superb music and graphics.
- 1902 **TOMSOFT: VIRTUAL WORLD*** 3D filled vector demo.
- 1943 **WINDSURFER ANIMATION (2)*** very good.
- 1947 **MR POTATO HEAD*** funny cartoon antics.
- 1948 **MR POTATO HEAD CHIPS ARE UP!*** More adventures
- 1956 **CREATURE COMFORTS DEMO** from the adverts
- 1982 **3D PINBALL ANIMATION*** beautiful ray-tracing.

## AMIGA A500 PLUS

Certain software will not work on the new Amiga. We are compiling a list of compatible titles, but this will take some time to complete. In the meantime, problems can only be checked as they occur.

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- 1450 NEW SUPERKILLERS
- 1451 ELECTROCAD V1.4
- 1452 AMIBASE
- 1536 NORTH C (PACKED)
- 1537 NORTH C (UNPACKED) (2)
- 1545 SPECTRAPAINT V3.0
- 1550 FLEXIBASE V2.0
- 1569 LANGUAGE TUTOR
- 1606 DATABASE MASTER 2.0
- 1629 ZX SPECTRUM EMULATOR
- 1663 DYNAMITE BRUSH FONTS
- 1858 202 UTILITIES
- 1878 TEXTPLUS WORD PROC.
- 1880 DCOPY & UTILITIES
- 1884 EQUINOX INTRO WRITER*
- 1886 MED V3.1
- 1893 DICE V2.06A
- 1896 DESK BENCH (3)
- 1906 PAGESETTER CLIP ART (8)
- 1914 SLIDESHOW CONSTRUCTOR
- 1942 MASTER VIRUS KILLER V2.2
- 1951 KING JAMES BIBLE (3)
- 1954 CELTICS DEMO MAKER
- 1960 RSI DEMO MAKER (ENGLISH)
- 1961 RSI DM UTILITY/HELP DISK
- 1962 TSB 3D VECTOR DESIGNERS
- 1987 QUICKBENCH*
- 1990 NIGHTFLYERS UTILITIES IV
- 2004 TURBO IMPLODER V4.0
- 2012 DRAW MAP V2.3D
- 2058 VECTOR BALL EDITOR*
- 2156 CODERS UTILITY DISK

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- 407 CD PLAYER DEMO*
- 713 FLASH! - QUEEN (2)
- 724 TECHNOTRONIC REMIX
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- 1713 SPACED OUT VOLUME 1
- 1714 SPACED OUT VOLUME 2
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- 1755 AMAZING TUNES 2 (3)*
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- 1719 YABBA DABBA CARTOONS
- 1781 RFLECTIONS RAY-TRACED
- 1835 NIGHT BREED SLIDESHOW
- 1876 REFLECTIONS RAY-TRACED 6
- 1901 LEEDS UNITED SLIDESHOW
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**KEY TO SYMBOLS USED**

(2) = Number of disks
* = 1Mb ** = 2Mb, etc.
(2D) = 2 drives, (X) = Adults only
(P) = A500 Plus Compatible
(NP) = Not A500 Plus Compatible

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continued from page 154

especially on longer documents.

*Snap* does have its problems though. Although it will grab from the majority of Intuition-based programs, some programs can cause problems. The author himself lists a number of applications which can cause problems. On the whole though, the advantages certainly outweigh the disadvantages, making *Snap* a useful piece of PD software. Check it out for yourself.

**Value for Money..................8/10**

## LINER

**Fred Fish 285**

Anyone who is looking for a PD alternative to the *Flow* ideas processor need look no further than this freely distributable outliner from Dave Shreiber.

If you've never seen an ideas processor, the basic idea is that you can organise your thoughts by arranging them into an outline. Each heading can then be expanded into a limitless number of subheadings which can be expanded upon. Obviously your outline will start to look rather messy after a while, which is why both *Flow* and its PD equivalent allow you to collapse subheadings therefore hiding any information contained within its lower levels.

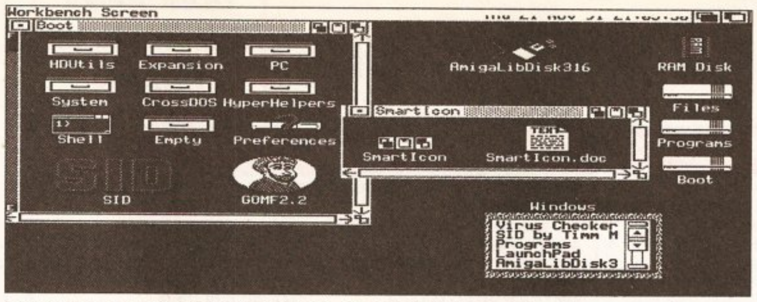
Outliners can be used for a variety of different applications ranging from simple 'brain storming' to the planning of seminars, meetings and then general organisation of just about any complex data. For example, you could easily organise information on cars. At the top level of the outline would be a list of car types – saloons, hatch backs, hot hatches, estates etc. You could break these down into the companies which make them – Ford, Vauxhall, BMW etc. Taking this further, you could then break these down into individual car models, finishing off with the specification of each car – Escort RS2000, 16v 2-litre DOHC etc.

*Liner* isn't quite as polished as New Horizons' *Flow* but it basically does the same job. If you can live without the pretty user interface, spell checker etc, then check this one out first. Who knows, you could end up saving yourself over £75!

## SMART ICON

**Fred Fish 316**

If you own a hard disk, then no doubt you've organised much of what it holds into specific directories – a directory for *DPaint*, one for *Protext* and another for *ProPage*, for example. Organisation is an admirable trait, but in the case of a hard disk, it can often result in having to flick through endless directories to find the file or program




**When does a screen contain loads of open windows but only one can be seen? When you use *Iconiser*, of course!**




**Speed up your floppies by as much as 500% with *Flash Disk***

required. Problem is, all these directories need their own window and after a while all you end up with is a Workbench cluttered to bursting point with useless windows. You could close them, but what happens if you want access to them again without having to flick through an endless list of directories? You get yourself a copy of *SmartIcon*, of course!

*SmartIcon* is a neat little program which adds an extra 'Iconify' gadget to any windows currently open on any screen. Simply by clicking on this gadget, *SmartIcon* removes the window and stores it in a list of iconified windows. If you need the window to be opened again, a quick click on the appropriate entry reopens the window in its original size and position. This can be particularly useful when using programs which open lots of little windows. *SmartIcon* will enable you to remove those that you do not need and then reopen them when they are required.

*SmartIcon* is the kind of program that works best on a hard disk based system. Once installed in your StartUp-Sequence, you'll have instant access to that extra iconify gadget. In some ways, it's a great shame that Intuition doesn't come as standard with such a useful facility! If you've got a large hard disk, then *SmartIcon* will prove to be a real time saver.

**Value for Money..................6/10**

## FLASH DISK

**GTS Disk Utils #2**

If you're looking for a PD disk optimiser along the lines of the excellent commercial program *BAD*, then look no further than *Flash Disk*. *Flash Disk* will take a disk (any disk) and restructure it so that it will load directory listings and programs far more efficiently, therefore decreasing the amount of time you spend waiting for anything to load.

When you feed a disk to *Flash Disk*, it scans the contents of the disk, reorganises the files which it contains and then rewrites the entire contents to a fresh disk. The changes are permanent and will usually increase the speed of disk access by anything from 3 to 5 times. This largely depends upon

continued on page 161

# SCOPE DISK 149

**Digitz**

If you're looking for a PD disk which is packed with good software, then check this out. Here's what it has to offer –

**ST Emulator** – The infamous PD ST Emulator is back with a vengeance. According to the sparse documentation file supplied with the program, some clever chap has hacked and chopped it so that all its requesters are now in English. Despite this claim, the version that was supplied to us still had a few words of German littered throughout.

Unlike the real Macoy, the emulator runs all three of the STs screen modes on a standard Amiga monitor. High resolution is the most usable (apart from the eye-straining interlace), but the other two seem to slow the emulator down to an unbearable crawl (especially low res!). The overall standard of emulation certainly seems quite high, although the vast majority of games obviously won't run. Programs like *Pro-24*, *ST Protext* and even *Deluxe Paint* ran without problems.

**Font Manager** – If you've got a hard disk filled with fonts, then this program could prove to be the answer to your problems. When the program first runs, *Font Manager* scans your current FONTS: directory and displays a list of all the fonts that it finds. You can then click on any font and the program will display it in a number of different styles including bold, italics and underline.

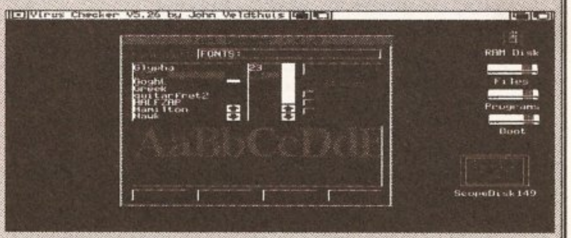
**Streets & Alleys** – If you need a break from all that coding, then *Streets & Alleys* is the answer. It's a nicely presented solitaire-like card game which plays a mean hand. Card games have never been my forte, so you'll have to check this one out for yourself.

**NewPRT** – If you're a *PageStream* user who owns a printer that is not supported by the drivers supplied by Soft-Logic, then you're in luck. Digitz have compiled a list of no fewer than sixteen printer drivers, all of which they've crammed on to this disk. The list includes printers from Oki, Gemini, Epson, Tek, NEC and both standard and colour postscript lasers and imagesetters.

**Recover** – If you've ever lost files through faulty media, then *Recover* is for you. It's a fully Intuition-ised file recovery utility which will scan any disk and report on any files it can find. You can then have these written out to another disk, saving the heartache that a corrupted work disk can cause.

**PageStream Fonts** – Crikey! Not content with giving away a host of printer drivers, Digitz have come up with no fewer than three new outline fonts to be used with *PageStream*. *Tyme* and *Freehand* are script-like fonts and Kibo is a Sans font similar to the Optima font that is included with *PageStream*.

**Value for Money...........................................8/10**




**If you've got a disk filled with Amiga fonts then *Font Manager* will help you find the font that you need in no time at all**

# HyperQuick

28 Forrest Rd., Penarth, South Glam. CF6 2DP

## UTILITIES

| | |
|---|---|
| 102 | **DCopy** - ***Superb disk copier*** |
| 110 | **Ncomm V1.921** - ***Your modem's dream.*** |
| 111 | JRComm V1.02 - *Ncomm alternative.* |
| 120 | DPaint Fonts (4) |
| 133 | Iconmakers - *Four icon making progs* |
| 141 | C-Light* - *Ray tracer* |
| 156 | Intromaker - *Design your own.* |
| 159 | Superworkbench - *WB replacement* |
| 162 | **Sid V1.06** - ***Excellent dir. util*** |
| 187 | MessyDos - *For the PC* |
| 190 | **NorthC V1.3 (2)** - ***C Compiler*** |
| 192 | **C Tutorials (4)** - ***Learn C*** |
| 201 | NoisePlayer V3 - *Play modules* |
| 204 | Soundtracker V4 (2) - *Good as Med?* |
| 207 | Future Composer - *Music Creator* |
| 208 | Star Trekker Music Prog. V1.2 |
| 210 | **Med V3.11*** - ***Excellent music maker*** |
| 211 | Sound Applications (2) - *Lots and* |
| 223 | QED text Editor - *Good* |
| 225 | **UEdit V2.6** - ***Superb text editor*** |
| 228 | **Analyticalc V25-03b** - ***Spreadsheet*** |
| 229 | Spread - *Simple spreadsheet* |
| 230 | **Textplus V3.0EN** - ***Wordprocessor*** |
| 237 | **Bit Tech Tools #1** - ***203 utils!!!*** |
| 251 | **PowerPacker V2.3** - ***Prog. Cruncher*** |
| 252 | **Imploder V4** - ***Good cruncher*** |
| 301 | A-Gene V3.12* - *Family trees* |
| 303 | **Anti-Virus Tool Kit** |

## GAMES

| | |
|---|---|
| 3 | Monopoly - *Guess what?* |
| 4 | Strategy Games - *Five good games* |
| 5 | **Truckin On (2) *** - ***2 Player*** |
| 9 | **Mech Flight** - ***Excellent*** |
| 10 | Castle of Doom - *Graphic Adv.* |
| 21 | **Holy Grail Adv*** - ***Huge Text Adv.*** |
| 23 | Breakout Con. Set - *Addictive* |
| 30 | **Dragon Cave** - ***Beautiful fantasy.*** |
| 34 | Space Blitz - *4 Old classics* |
| 37 | **Return to Earth** - ***Like Elite*** |
| 39 | **Pipeline** - ***Frustrating!!!*** |
| 45 | Star Trek - *Final Frontier (2)* |
| 46 | Zeus - *Logic Teasers* |
| 48 | **Megaball*** - ***Superb Breakout clone*** |
| 49 | **Seven Tiles** - ***Like Speedball*** |
| 50 | **Frantic Freddie** - ***Platform.*** |
| 52 | Master of the Town - *Be a vandal!* |
| 53 | Eternal Rome - *Strategy game.* |
| 54 | **Llamatron** - ***Minter Classic*** |
| 59 | Mind Games - Test your IQ |

**FRED FISH 290 - 560**

**TBAG 1 - 59**

## DEMOS

| | |
|---|---|
| 607 | **System Violation Demo** - ***Superb*** |
| 608 | Fractal Flight Demo |
| 610 | Crionics: Total Destruction |
| 616 | **Purple** - ***One of the best*** |
| 618 | Vortex Megademo - Quite good |
| 620 | **Red Sector Cebit Demo** - ***Suuberb!*** |
| 621 | Pussy Innership |
| 630 | Ecstasy Demos* - Ten great demos |
| 633 | **RAF Megademo (2)** - ***Classic*** |
| 636 | **Maximum Overdrive (2)** - ***THE BEST?*** |
| 637 | Coma demo - Pop video |
| 638 | Total Confusion* - Very good |
| 640 | **Red Sector Megademo (2)** |
| 644 | **Silents: Blues House (2)*** |
| 645 | Simpsons Demo - Decay* |
| 646 | Drifters' Demo - Six of One |

## ANIMATIONS

| | |
|---|---|
| 650 | **Iraq Demo** - ***Very Funny*** |
| 652 | Gymnast Animation* - *Classic* |
| 654 | Basketball Demo* |
| 655 | **Puggs in Space** - ***Best anim around*** |
| 657 | Tron Animation (2)* - *Very long* |
| 658 | **Franklin the Fly** - ***Long & funny*** |
| 659 | Mars Demo - *Smooth animation* |
| 660 | **Juggette & Juggette the Revenge II*** |
| 661 | Juggler Demo II |
| 663 | **Fillet the Fish** - ***V. Funny*** |
| 665 | Steve Anims (5) - *31 anims!!!* |
| 670 | Batman Demo* - *Schwartz* |
| 671 | **Revenge Horror Show - Sick** |
| 672 | **Gulf Conflict (2 meg reqd.)** |
| 673 | Pogo Anim (1.5 meg reqd) - Schwartz |
| 674 | Amy vs. Walker* - Schwartz |
| 675 | **The Education of Cool Cougar*** |
| 676 | Shuttle Cock Anim* - Schwartz |

## MUSIC

| | |
|---|---|
| 411 | **Crusaders: Bacteria** - ***Excellent*** |
| 415 | Bomb the Bass - *Not Bad* |
| 418 | Depeche Mode - *8 D.M. tracks* |
| 438 | Cave: Synthetic Power - *10 tunes* |
| 439 | Crusaders: Sheet Music - *7 tunes* |
| 440 | J.M.Jarre - Definitive |
| 441 | **Taipan Music Demo (2)** - ***Brilliant*** |
| 445 | Power of Love - Huey Lewis (2) |
| 446 | **In a Silent Way** - ***11 tunes*** |
| 447 | Crusaders does Genesis |
| 451 | **Art of Med** - ***very long Med tunes*** |
| 453 | Reincarnation of Sgt. Pepper (2)* |
| 454 | Vivaldi: The Four Seasons (2) |

### Key

* denotes 1 megabyte required.
(x) Figure in brackets denotes the No. of disks in set.

### Charges

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| 1 Disk | £1.50 |
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## UTILITIES

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|---|---|
| U751 | Messydos - Amiga - PC Copier |
| U752 | Arp V1.3 with documentation |
| U753 | Red Sector Demo Maker |
| U755 | C-Light ray tracing program |
| U756 | Multiripper |
| U757 | Amibase - Amiga Database |
| U758 | DCopy |
| U759 | SID v1.06 |
| U760 | Fractal Selection |
| U762 | Hard Drive Utilities |
| U763 | Labelprint |
| U764 | Modula 2 Compiler |
| U765 | Pascal Compiler V1.2a |
| U766 | Astronomy - database data |
| U768 | Starchart - Graphic Star positions |
| U772 | Super Killers - Virus Killer |
| U775 | Icon Meister V5.1 - Icon maker |
| U777 | MCAD - Computer Aided Design |
| U778 | Scenery - Fractal landscape generator |
| U795 | Fortran Development System (2D) |
| U781 | Genesis - Fractal landscape generator |
| U782 | Drawmap V2.25d |
| U784 | Multiplot - graph plotter |
| U786 | ZPlot V1.3d - 3D graph plotter |
| U787 | A68K -68000 processor assembler |
| U789 | Plot V5.1 - plot 3D functions |
| U791 | Printer Utilities |
| U800 | Master Virus Killer V2.1 |
| U804 | Mandelmountains |
| U806 | Jazzbench |
| U810 | UEdit Text Editor |
| U911 | Textplus - Word processor |
| U813 | Powerpacker V2.3 |

## GAMES

| | |
|---|---|
| G501 | Megaball and Drip |
| G505 | Llamatron - by Jeff Minter |
| G509 | Board and Card games |
| G510 | Seven tiles |
| G511 | Cubulus |

## MUSIC

| | |
|---|---|
| M001 | Twenty seconds to Comply |
| M002 | Coma |
| M003 | Beatmaster - 808 State |
| M004 | LSD Supreme Music 1 |
| M005 | Bomb the Bass |
| M006 | Uranus Music (1MB) |
| M007 | Drums and Pipes |
| M010 | Manic Raves |
| M014 | Digital Concert IV |
| M018 | No-Tech - by Bass |
| M022 | It's On You (2D) |
| M026 | AR Music 1 |
| M101 | MED 3.11 - Sequencer program |
| M111 | Midi Utilities 1 |
| M112 | Midi Utilities 2 |
| M121 | Voice Editors Collection |
| M134 | Audio Magic - Sequencers |
| CM001... | Chaos Samples (1...10 disks) |

## DEMOS

| | |
|---|---|
| D253 | Predators Megademo (2 D) |
| D254 | Mental Hangover |
| D255 | Virtual Worlds |
| D256 | Upfront Cool Fridge |
| D260 | Cebit '90 |
| D261 | Plasmutex 91 |
| D266 | Phenomena-Interspace |
| D268 | Coyote II - Eric Schwartz Animation |
| D279 | Fractalmania |
| D285 | Real 3D Images |
| D286 | Red Sector Megademo (2 D) |
| D287 | Star Trek animation |
| D297 | KGB Megademo |
| D298 | Budbrain |
| D301 | Cebit '91 |
| D306 | Agatron Slideshow 6 |
| D310 | Anti-Lemming animation (2MB) (2D) |
| D311 | Puggs in Space |
| D312 | Pictures-high quality high-res images |

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*G693 Cubulous (Superb rubiks cube puzzle) (P)*
*G687 Napoleonic Warfare Simulator (P)*
*A508 Return To Earth (Impressive Space Trading Game) (P)*
*G625 Drip! (*) (You must get this classic game!) (P)*
*G624 Blizzard (*) (PD's best shoot em up) (P)*
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*C706 Snakes + Ladders (Classic board game fun)*
*C707 Pair It (*) (Match the cards-great fun!) (P)*
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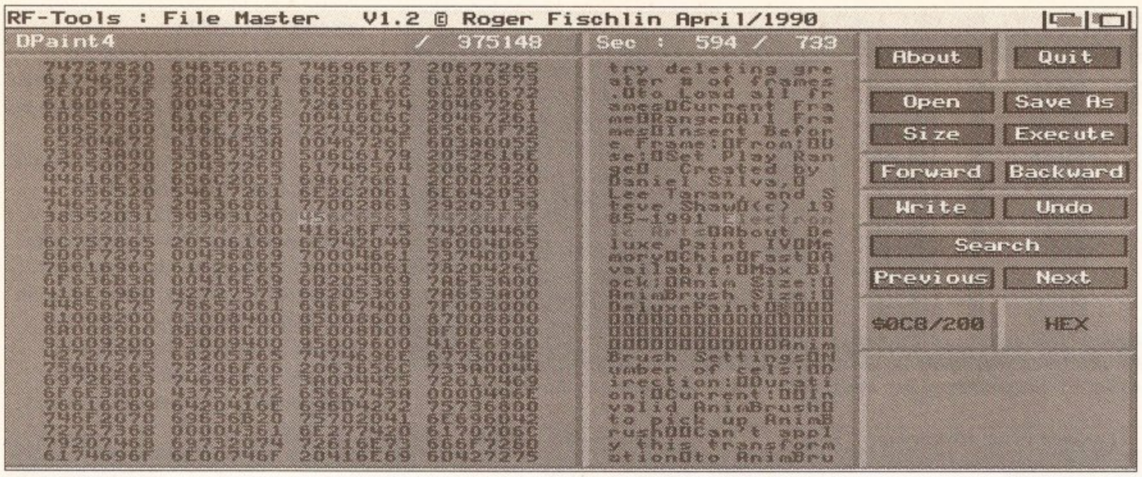
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*FileMaster* **is a powerful binary editor for altering any binary file in hex or ASCII**

**continued from page 158**

how badly the original disk was fragmented, but considerable speed gains are common.

As the author is keen to point out, the current version of *Flash Disk* is still very much an alpha release, so it's not a good idea to trust your original disks to the program. Although the program will enable you to write directly back to the source disk, don't take any chances – if you've got a blank disk handy, then always write to this instead.

Having run several disks through *Flash Disk*, it certainly seems to do the job fairly well. The increase in speed is quite noticeable, especially when you run a disk through *Flash Disk* that contains a large number of directories and files in the disk's root directory. An increase in program loading speed isn't so noticeable, but I'm used to a SCSI hard drive!

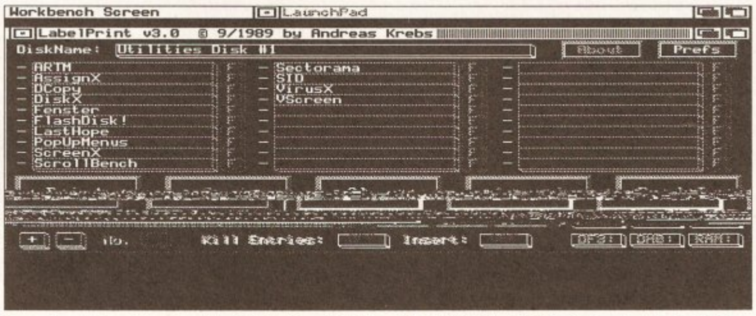
*Flash Disk* is yet another fine example of quality Amiga PD. It may not be as complete as programs like *BAD*, but it gets the job done with a minimum amount of fuss. This is definitely one utility to have earned itself a permanent position on my hard disk!

**Value for Money..................7/10**

## DISK UTILITIES VOL#1

**George Thompson Services**

The Amiga's disk drives can be temperamental at times, so it's worth having a decent set of disk utilities handy when things do go wrong. Sourcing disk utilities isn't really too much of a problem, but getting all the utilities you need can be an expensive affair unless you check out this disk from George Thompson Services. It's totally and utterly packed with useful disk utilities which could well save you a lot of heart ache if your Amiga disk drive does suddenly decide to start eating disks.




**Create attractive looking labels with the Fish Disk's disk label printing utility**

The disk contains no fewer than seventeen genuinely useful utilities all of which are geared towards keeping your disks and data under control. Some are more useful than others, but you're virtually guaranteed to find something that you'll find really useful. Here's a quick rundown of some of the more interesting programs on offer –

**Track Display** – As its name suggests, track display shows the position of your Amiga's disk head as it reads and writes to disks. This can be useful for tracking down hard errors.

**FastDiskII** – Very similar to the *Flash Disk* program review elsewhere, *FastDiskII* is a very clever disk optimizer which speeds up the loading time of your disks.

**FileMaster** – *FileMaster* is an alternative to PD binary file editors such as *Zap* and *NewZap*. It enables you to alter binary (program) files in either hex or ASCII and then save the modified files back to disk.

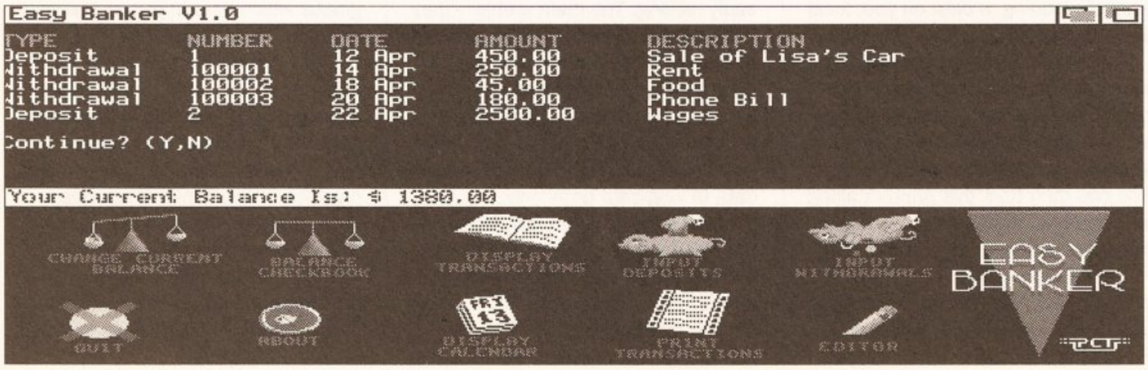
**DiskSpeed** – If you want to know how fast your drives can read and write data (useful as a benchmark when buying external drives), then this is the program.

**Formatter** – If you're sick of the Workbench disk formatter, then this Intuition-based replacement is for you. It's faster and gives you more control over what's going on.

**SetNoClick** – Has that annoying click which the Amiga drives make, when no disks are in them, driven you mad? Now you can turn it off by running this program.

**DevRen** – Now here's a useful utility. *DevRen* allows you to rename any logical device in the same way as you can rename a disk. For example, you could change DF0: to DISK0:.

**LockDevice** – I know, I know, AmigaDOS already has a Lock command, but this one is a lot more efficient and certainly a lot safer. Hard drive owners should check it out now.




**Keep your bank manager happy by keeping an eye on your personal finances with** ***Easy Banker***

## LABEL PRINT

**Fish Disk 277**

Keeping track of floppies can be a difficult task unless you're the kind of person who is organised enough to label them properly. Most of us scribble a short description of a disk's contents on to the front of the disk, but even then it can take a considerable amount of time to track down that little utility which you know is in your disk box somewhere.

This is where Andreas Krebs' *Label Print* comes in. If you're lucky enough to own a printer, *Label Print* enables you to produce very neat little disk labels which detail not only the name of the disk, but also its entire contents. Once all the data has been fed in, *Label Print* will then print out a disk label in exactly the right size for you to cut out and glue on the front of your disks (time for a quick tip – I use 3M Spray Mount to stick paper labels on disks).

You can enter the contents of a disk into *Label Print* by manually typing them in, but for the lazy among you, *Label Print* has a facility which enables you to read in the directory of a disk and pick the entries you wish to appear on your disk labels. Obviously this doesn't work too well if you've embedded programs in a mass of directories, but it's the thought that counts.

Quality-wise, it would have been nice if Andreas had exploited the graphics potential of many dot matrix printers, so that boxes and lines could be printed as well. Gripes aside though, *Label Print* provides an elegant solution to an old problem.

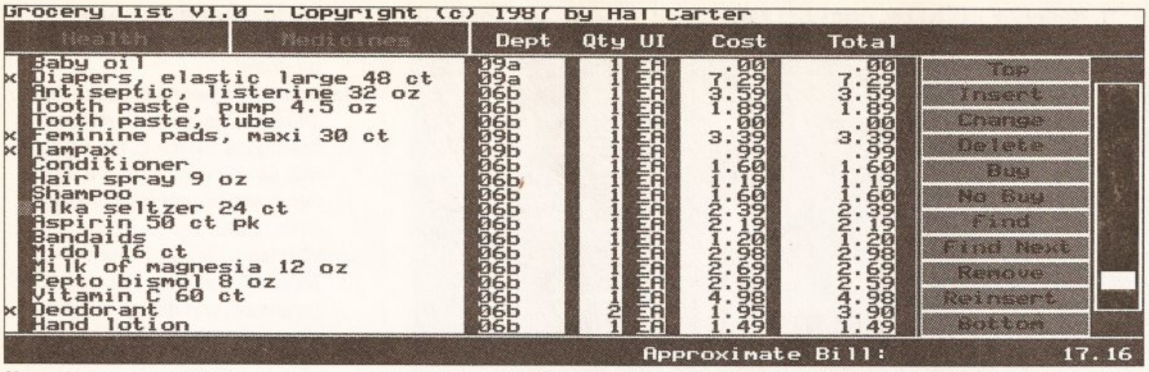
**Value for Money..................7/10**

# BUSINESS

## EASY BANKER

**GTS Home Management #2**

Home finance programs are a little thin on the ground in the Amiga PD libraries, but what is available is usually of good quality. The latest – and possibly the best – program of this type to be released is *Easy Banker*, a powerful personal finance program which combines some very pretty graphics with the kind of ease



***Home Help* – Shopping list generator? Yes folks, PD programmers are starting to exploit the power of the Amiga**

of use that you just won't expect from such a mind numbingly boring and often complex subject.

The program itself is fairly simple. To get things started, all you do is to tell it the current date and your starting balance. Each time you either withdraw or deposit money, you then tell the program how much was withdrawn or deposited, the date the transaction took place and the program does the rest. And, as you'd expect, the program then automatically makes adjustments to your account, so you can see how bad your overdraft really is!

One thing missing from *Easy Banker* is the ability to set up fixed debits and credits (load payments and pay cheques, for example). As it is, you have to enter these yourself as and when they occur. It's a great shame the author hadn't incorporated this facility as it would have made *Easy Banker* a real alternative to such commercial offerings as Digita's *Home Accounts 2* and MicroDeal's recently released *Personal Finance Manager*.

The beauty of a home finance program is the ease with which you can query your bank balance and display all transactions from a given date. *Easy Banker* has this facility, so you'll never be left in the dark when the finances look a bit shaky.

*Easy Banker* is a brave attempt at a home finance package but it doesn't quite hit the mark. If the author was to implement the changes that I have detailed, it would be a truly useful piece of software. As it is, it's best kept for those with simple to manage finances.

**Value for Money..................6/10**

## HOME HELP

**GTS Home Management #1**

If there's one type of software which dominates the Amiga PD scene, it must surely be the generator. Look through just about any PD listing and you'll find source code generators, fractal landscape generators, gadget generators, Mandelbrot generators, icon generators and even generator generators. So far though, no one has really brought out a generator which really pushes the Amiga. That is, until now – Enter the Shopping List generator from Hal Carter, a programmer who is single-handedly pushing back the boundaries of Amiga software development.

*Home Help* provides an easy method of preparing your grocery list and can greatly simplify your shopping trip by arranging all the items into a logical route that can be followed when you actually pick up your purse and pop down to Sainsbury's. The grocery list generator is split between two programs. The first is an Intuition-based menu program where you pick the items you need from a database containing details of the item's price, the store it is available from and where in the store it can be found.

The program comes as standard with a large database which has been set up by Hal to give you an idea of how your database should be structured. This data could be used as it is, but you'd lose many of the benefits which *Home Help* has. Instead, it's best if you start from scratch, feeding in data on your local stores and your own buying habits.

Once you've drawn up your shopping list, you then feed the output from the first program into a second program which sorts your shopping list and then prints it out. You can then take this printout along with you and impress all your fellow shoppers with your ingeniousness!

It's all too easy to laugh at a program like *Home Help*, but it really is a useful tool. If there was ever a PD program to address the masses' needs, it must surely be *Home Help*. If you think you could benefit from a computerised shopping list generator, then add this one to your hand written shopping list immediately.

**Value for Money..................8/10**



**Do you know how much the contents of your home are worth? If you don't then you need the inventory management tool, *I-Man*, part of the GTS Home Management collection**

## I-MAN

**GTS Home Management #1**

Have you ever wondered how much the contents of your own home are worth? I'm sure we could all hazard a guess, but how many of us could confidently quote a figure if it came to the crunch? If you'd like a better idea of the value of your property, then *I-Man* is for you.

*I-Man* (*Inventory Manager*) is a nicely presented and surprisingly powerful inventory management program which will enable you to keep track of the value of your home's contents. *I-Man* was written after the author attempted to produce an inventory of his own property but found existing inventory programs available on both the Amiga and other machines to be sadly lacking. The main problem they had was the amount of work involved when entering information to the program. Author Jim Bryan has simplified the process considerably by making as much of the data entry icon-based, leaving more specialised data to keyboard entry only.

When the program first loads, the first thing you must do is to create an inventory file and then start entering records into it. As I've already mentioned, much of the process of entering records is carried out simply by clicking on icons, so a large number of records can be entered fairly swiftly.

Once you've entered all the items within your home, you can then query the program about the value of items contained within a specific room, the value of items of a specific type (appliances or clothes, for example) and even the value of items above or below a certain price.

Something like *I-Man* isn't just restricted to the task of compiling an inventory of your home. It could equally be used for just about any building, making it an ideal tool for small businessmen. It's a solid and well designed piece of software which fills a gap in the Amiga PD marketplace. Anyone requiring peace of mind should check it out.

**Value for Money..................7/10**

# MUSIC

## K1 EDITOR

**Fish Disk 332**

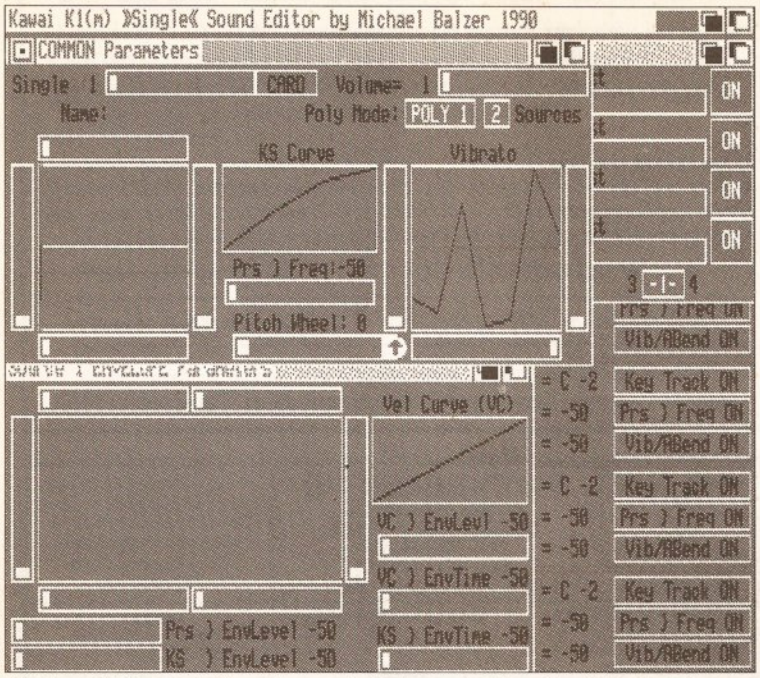
Good quality MIDI software is hard to find, but what is available is fairly usable. Take Michael Balzer's *K1 Editor*, a rather stonking patch editor designed for use with Kawaii's super little MIDI synth, the K1.

Just like DrT's commercial equivalent, you can dump individual sound patches into the program and then alter the sound using the onscreen controls. On the Kawaii, these operations are carried out using a rather unfriendly text-based LCD strip, but Michael's *K1 Editor* makes editing sounds even simpler thanks to the extensive use of graphs which enable you to see your waveform in graphical format.

The current release does not support multi-sounds, but Michael is already hard at work on a version of his editor which not only supports single and multi-sounds, but will also organise entire banks of sounds using a built-in librarian. For those of you with either an A500+ or an A3000, Michael fully intends upgrading the program to support both Workbench 2 and even the Enhanced Chip Set.

It's very unusual to find a PD

continued on page 164



**Edit Kawaii K1 sounds from the comfort of your Amiga with a little help from Michael Balzer's brilliant K1 Editor**

continued from page 162

program which not only equals, but surpasses anything the commercial sector has to offer, but Michael Balzer's *K1 Editor* is one such program. It's easy to use, feature packed and should be at the top of any K1 owner's shopping list.

**Value for Money..................7/10**

## CZED

**Fish Disk 223**

Kawaii K1 owners aren't the only people who are in for a real treat. Thanks to the generosity of Ultimate Computer Arts in West Germany, owners of Casio's rather aging range of CZ synths (230S, 1000, 2000, 3000 etc) can also get in on all this patch editing mallarky with *CZEd*. Originally marketed as a commercial product, Ultimate have withdrawn the program from shop shelves and decided to give it away instead.

Michael Balzer's K1 Editor was limited in some areas, but the *CZ Editor* is a complete product which handles just about anything you wish to throw at it. The program contains a total of four modules – a fully fledged patch editor, a split simulator which enables you to convert sounds from other CZ synths to your own, a bank loader and a memory dump facility to store entire banks of sounds on an Amiga disk.

Like the K1 Editor, *CZEd* is fully intuitionised therefore enabling you to edit sounds far more easily than is possible on the real Macoy. You can alter any of the various attributes which give a sound its character and even create entirely new sounds using the program's rather interesting (but not always success-ful) random patch generator. Some of the sounds that the random feature comes up with are not bad at all (although they often require a bit of tinkering to perfect them), but some come out sounding awful.

If you own a CZ Synthesiser and you've been considering the purchase of a commercial patch editor, then save your money and buy this instead. Not only is it considerably cheaper (£3 as opposed to £80!), but it has everything that even the most well endowed commercial patch editor has to offer.

**Value for Money...............10/10!**

# GRAPHICS

## BEZSURF 2

**Fish Disk 315**

Eric Davies' *BezSurf* program has been available in the PD libraries for a number of years now, but at last a major upgrade has been launched in the shape of *BezSurf 2*. For those of you who have never used this quite excellent utility, *BezSurf* creates bezier revolution surfaces. What this means is that by simply drawing one side of the outline of an object, *BezSurf* will generate a 3D representation by 'spinning' the outline to form a 3D object. If this hasn't described the program's function adequately, then think of it as a sort of computerised lathe.

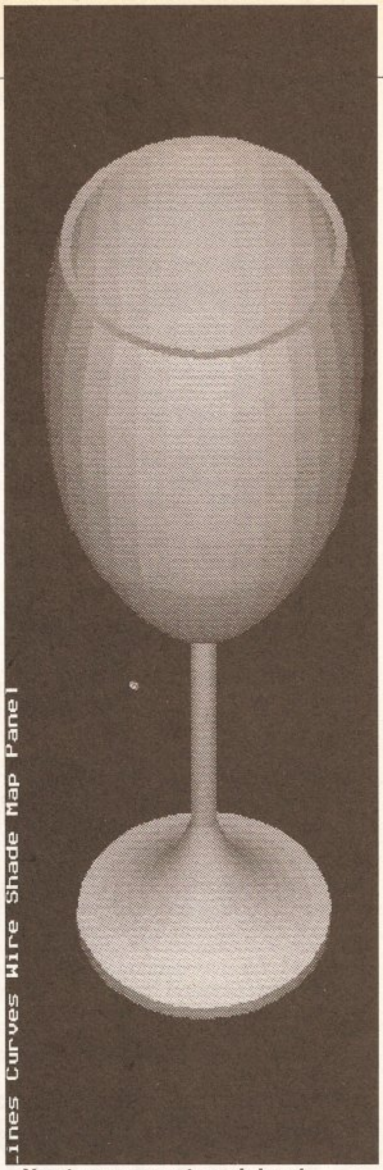
With *BezSurf*, you can create some quite fantastic-looking objects ranging from candle sticks to wine glasses, complete with full 3D shading and perspective. Once the outline has been spun, you can then reposition the camera position in 3D space, there producing a different view of the object in 3 dimensions.

At its simplest level, *BezSurf* can produce some pretty pictures, but it has got its serious uses. New to version 2 of *BezSurf* is the ability to generate object files suitable for use within 3D modelling programs. The current release only supports *VideoScape 3D*, but it shouldn't be hard to convert these files to other formats including Sculpt, Turbo Silver and Imagine.

One nice facility is *BezSurf*'s Map option. Like *Photon Paint*, this feature enables you to map an IFF image on to your 3D object. The mapping process seems to take an absolute age to complete, but the results are often more than worth it. If you've got an accelerated Amiga, then it's well worth putting pedal to the metal to get things rolling as fast as possible. If you don't, then expect to wait a long time.

Even if you don't own a 3D modelling program and a processor accelerator, *BezSurf* is still a lot of fun. There's just something uniquely fascinating about being able to draw a squiggle that is then transformed into an impressive looking 3D object.

**Value for Money..................7/10**



**You too can create weird and wonderful looking 3D objects with *BezSurf*, a fascinating bezier surface revolution program**

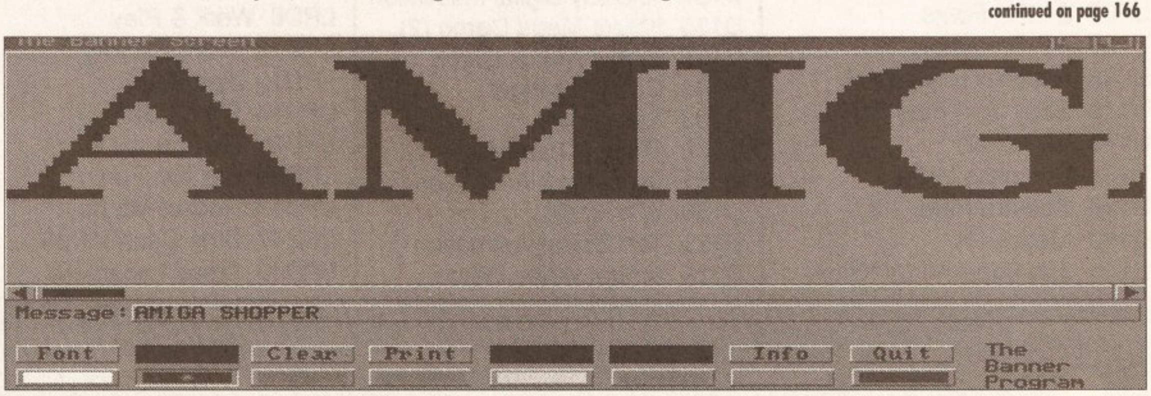
## THE BANNER PROGRAM

**TBAG Disk #52**

Anyone remember a stonking program called *PrintShop* which was available on the good old C64? Those of you who have seen it may remember that one of the program's most useful features was its ability to generate banners from any user-specified string. Well, unfortunately no such program is available for the Amiga, but all that has changed with the release of Arthur Dahm's clever banner creation program.

Unlike *PrintShop*, Arthur's banner program can use any standard Amiga font. If you have a font which contains more than one point size, the program automatically selects the largest size available, therefore giving better results when the banner is finally sent out to your printer. On the whole, it's best to use the largest fonts you have available. If you try using a font which is no larger than 50 points, the results can look blocky. For best results, it's worth

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***The Banner Program* creates absolutely huge banners using standard Amiga fonts**




# Software Expressions




**Introducing some of the best public domain & shareware disks available for the Amiga today. Go on...express yourself!**

## UTILITIES

001 ....A-Gene (1MB).......................Trace your ancestors
005 ....Amibase.......................Excellent database system
006 ...Amigazer.......................For those astrologists
016 ....Biorhythms (1Mb).......................Chart your feelings
017 ....Business pack (3 disks).......................D/base, s/sheet, w/p
101 ....C64 Emulator.......................Take your Amiga back to basics
114 ....Cross Dos.......................Demo Version
020 ....C-Manual (3 disks).......................Guide to C-programming
092 ....Cartoon Brushes.......................Lots of famous characters
024 ....Catalogue Maker (2 disks).......................Good; be patient!
098 ....Database Master.......................User friendly
025 ....DTP Clip Art.......................For graphics enthusiasts.
033 ....Education 1.......................Learn German
035 ....Education 3.......................Weather
036 ....Education 4.......................Evolution
04 ....Golf Recorder (1Mb).......................Excellent. Recommended for golfers
043 ....Intromaker.......................As it sounds. Good
045 ....Jazzbench.......................Another good W/B alternative
049 ....Mandlebrot Explorer.......................Excellent piccies
050 ....Master Virus-killer.......................Recognises over 100 viruses. Essential
06 ....Med v3.11.......................Latest sequencer version
10 ....Messysid v2.0.......................PC to Amiga file transfer
02 ....Multirippers.......................Plus Sanity and Pacman copy
052 ...Business Card Maker.......................Simple, but useful
099 ....Noiseplayer v3.0.......................Loads more modules
053 ....North C.......................Compiler
05 ....Personal Addresser.......................Useful
08 ...Picture Help.......................Convert Ham pics
61 ....Games Music Creator.......................Fav. composition writer
62 ....House Samples 1.......................Loadsa samples. Suitable for GMC etc.
73 ....Sid v1.06.......................Cli helper. Very popular
75 ....Spanish Tutor.......................Bueno!
71 ....Star Chart.......................For Astronomy enthusiasts
76 ....Star Trekker.......................8 channels, sampler. Superb
20 ....ST Emulator.......................Emulate Atari programs
83 ....Workbench Fun!.......................More W/B alternatives
03 ....Word Frenzy.......................Good wordprocessor
84 ....Wordwright.......................For all you dizlecksicks!
89 ....Journal.......................Very good account-handler
11 ....Tarot (2 disks).......................Amiga card reader!
90 ....Text-editor.......................Also text-paint
07 ....TSB Vector Designer.......................Special Brothers classic
91 ....Chet Solace.......................Utils. extravaganza plus game
93 ....Jamcracker.......................Songcreator from Vision. Well presented
97 ....Red Sector demo-maker.......................Recent. Exc. disk
15 ....Red Sector Extra.......................Fonts + objects for demo making
16 ....Red Sector Extras 2.......................More objects etc
13 ....Spectrum Emulator.......................Excellent
12 ....Slideshow Maker.......................Good construction kit
21 ....TAP Utilities 1991.......................Over 21 useful utilities
40 ....Font Disks (4 disks).......................Various fonts available
09 ....Music Construction Kit.......................Lots of different utilities

## DEMOS

15 ....Another 5 ways to Kill a Mole.......................It gets sadder!
15 ....Agatron Star Wars (1Mb/2 disks).......................Captivating graphics
16 ....Acid Music.......................Some wicked museec & grapheecs!
17 ....Addams Family.......................Slideshow of TV series
20 ....Bowie Demo.......................David Bowie of the past
22 ....Budbrain Megademo (2 disks).......................Still one of the best disks around
21 ....Budbrain 2.......................The equally brilliant sequel
23 ....Bass Megademo.......................Electrifying graphics & pulsating beat. Get it!
27 ....Beastie Boys.......................Excellent presentation
D036 ....Coma/Cebit/Victory (1Mb).......................Classic Acid-type demos
D048 ....Dream goes Berserk (1Mb).......................Astounding graphics & imagination
D049 ....Desert Island slideshow.......................Gruesome pics. Good
D058 ....Enterprise Leaving Dock.......................Famous animation
D060 ....Elvira.......................The sexy lady endows herself!
D061 ....Elvira Activities.......................Now move her body!
D236 ....Evil Dead (2 disks).......................Excellent stuff
D062 ....5 Ways to Kill a Mole.......................Funny. Not for animal lovers!
D063 ....Fillet the fish.......................The possible sequel to Puggs. A must
D064 ....Fraxion Fantasy.......................Gothic slideshow
D067 ....Fraxion Horror.......................Chainsaw macabre cartoon. V. popular
D069 ....Franklyn the Fly (1Mb).......................Long cartoon on cute ..........little Franklyn
D075 ....Girls of Sport.......................Pretty shots of talented girls
D083 ....Home & Away.......................Down-under disk
D092 ....Iraq Demo (1Mb).......................Topical cartoon. Bush meets Saddam! Bang!
D099 ....Jesus loves Aciid.......................Mindblowing music and graphics
D210 ....Kick Off 3.......................Good Music
D103 ....Legend of Billy the Kid (1Mb).......................Long running animation. Good
D114 ....Mike Tyson anim.......................Well compiled
D117 ....Magician v2.0.......................Recently appraised animation. Recommended
D218 ....Mr Potato Head.......................Incapable dancer demo
D126 ....Neighbours.......................Slideshow from Ramsay Street
D128 ....Punk croc crew megademo.......................Now see Jason get shot Ha!
D129 ....Puggs in Space.......................Brill cartoon. Puggs finds it's a different world!
D146 ....Red Sector megademo (2 disks).......................RSI's classic
D225 ....Reincarnation of Sgt. Pepper (2 disks).......................Beatles classic
D148 ....The Run (1Mb).......................T. Richter's car-chase animation. Good
D162 ....Stealthy Manoeuvres (1Mb).......................Excellent demo
D166 ....Star Trek Animations.......................Anims. of USS Enterprise
D177 ....Star Trek Animations.......................Agatron no. 17. More like above. Good
D230 ....Star Trek Slides (2 disks).......................From TV series
D189 ....Viz Slideshow.......................Fat slags & others in this slideshow
D226 ....Virtual World.......................Good
D028 ....Centronics.......................Demo compilation
D224 ....Invisible World.......................Digitized pictures of insects!
D250 ....Jimmy Hendrix Slideshow.......................Excellent music
D204 ....Sleeping Bag.......................Classic from Horizon
D214 ....Stamp Collector (1Mb).......................Famous quality animation
D234 ....Taxi Driver (1Mb).......................Good animation
D237 ....The Simpsons Demo.......................Bart at his best
D219 ....Walker Vs Amy (1Mb).......................Astonishing

## MUSIC

M001 ....808 State remixes.......................Four good tracks
M006 ....Batdance remix.......................Really good disk. Catchy stuff
M016 ....Depeche Mode.......................8 tracks of reasonable quality
M028 ....DJ Disco Leif's Hits.......................Really good presentation and beat
M032 ....Godbrain loves the world.......................Great acid-house musak
M086 ....Great Balls of Fire.......................Goodness gracious
M038 ....Hugo's Excentria.......................This has to be one of the best house disks
M039 ....I Love Technology.......................Recent production from Beatmaster. Good
M087 ....Iron Maiden.......................The Ides of March
M085 ....James Bond Remix.......................Catchy stuff
M081 ....Miami Vice.......................Theme remix
M080 ....Pet Shop Boys.......................The Manic Mix
M057 ....Powerpack 3 (1Mb).......................Includes Vanilla Ice track
M059 ....Powerpack 5 (1Mb).......................4 classy house tracks
M062 ....Random Access.......................Art of Noise and more. Startling acid track
M068 ....Sound of Silents.......................7 songs from Silents
M084 ....The Wall.......................Pink Floyd Classic
M088 ....500 Things Come Back Demo.......................Great Graphics & Music

## GAMES

G001 ....Autobahn 3000.......................Control ball through tunnel. Hard
G004 ....Airwar.......................Fighter simulation. Good shareware game
G005 ....All New Star Trek (2 disks).......................USS Enterprise classic. Best one
G011 ....Blizzard.......................Horizontal shoot-'em up. High quality
G013 ....Bullrun.......................War-game, based on US Civil War. Control Army
G014 ....Adventure Solutions (2 disks).......................Loads of hints of ..........commercial games. Good
G114 ....Buck Rogers.......................Shoot-'em up
G099 ....Cabaret Asteroids.......................At last a brilliantly playable version
G015 ....Crossfire (1Mb).......................Excellent game written in AMOS
G019 ....Dungeon Delver (2 disks).......................Difficult adventure quest
G021 ....Demolition Mission (1Mb).......................Similar to Balloonacy, good fun
G136 ....Empire.......................Exellent role playing game
G022 ....Escape from Jovi.......................Guide ship to safety. Simplistic graphics
G029 ....Flaschbire.......................Old favourite. Get to alarm clock
G140 ....Games Galore 9.......................Latest compilation of several games
G031 ....Gravattack.......................Control spaceship,. picking up keys
G038 ....Jeopard (1Mb).......................Risk-type strategic game
G040 ....Holy Grail (1Mb).......................Text adventure
G110 ....Ladybug.......................Pacman type game
G043 ....Learn and Play 1.......................Good for the kids. Blackboard maths, etc.
G050 ....Master of the Town.......................Use mouse to smash windows. ..........Very addictive
G049 ....Megaball (1Mb).......................Excellent game. Improved version of Breakout
G055 ....Mechforce.......................Strategy game
G056 ....Monopoly.......................Board game on disk
G124 ....Napoleonic warfare.......................Good simulation
G059 ....Nethack (Fish 460).......................Good adventure game, recently appraised
G135 ....No Mans Land (1 meg).......................2 player shoot up
G061 ....Pick up a puzzle (1Mb/2 disks).......................Fit the pieces. Good for the kids
G062 ....3D Pool.......................Control cue with mouse, and it's all pot luck!
G063 ....Pacman.......................The classic game still here
G060 ....Pipeline.......................Build an oil pipeline
G065 ....Pixie Kingdom (2 disks).......................Tricky adventure game. Good
G137 ....Scate Tribe.......................Scateboard game
G077 ....Seven Tiles.......................Excellent speedball game from Alpha
G102 ....Simulations.......................Metro, Amigoids, Imperium and more
G076 ....Star Fleet.......................Excellent shoot 'em up
G134 ....Star Trek (3 disks).......................The original version
G072 ....Star Trek: Next generation.......................Not as good as G005
G115 ....Survivor.......................Role play an alien
G100 ....Towers of Hanoi.......................Text adventure
G079 ....Treasure Hunt.......................Find the hidden treasure. Good graphics
G081 ....Trek Trivia.......................Test your Star Trek knowledge
G083 ....Wooden Ball (1Mb).......................Score three goals to win
G084 ....Wet Beaver Tennis.......................Simple, but good fun bat & ball game
G086 ....Wraithed One.......................Good general knowledge quiz
G088 ....Pair Crazy.......................Match the piccies
G094 ....Zeus.......................Simple puzzle game
G096 ....Assassins games comp.......................Very good. Includes ..........Tanx and Amigoids
G098 ....Battleforce.......................Control battle of robots
G097 ....Tomptespelet.......................Speedball game
G130 ....Battle Pong.......................Table Tennis Clone
G132 ....Darkstaff.......................Adventure game
G125 ....Attic Attac.......................Kill ghosts with axe
G133 ....Escape.......................Excellent graphics
G127 ....Games Galore 8.......................7 games incl Space War & Missile Command
G126 ....Pom Pom.......................Bomb Pearl Harbour etc
G131 ....Tom Cat.......................Shoot 'em up
G085 ....Word Search.......................Good puzzle game

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continued from page 164

using a font of about 100 point.

If you're lucky enough to own a colour printer, then you can print your banners in any one of the eight colours normally available on standard colour dot matrix printers. One very nice feature is that you can change the colour of the text several times within a single banner, to create some pretty rainbow effects.

*The Banner Program* is a great program. If you're in the market for a program which creates fantastic looking banners in full colour, then look no further. Your printer will hate you for it (using this program can cost a lot in replacement printer ribbons!), but it's certainly a program no Amiga owner should be without.

**Value for Money..................9/10**

## QUICKIES

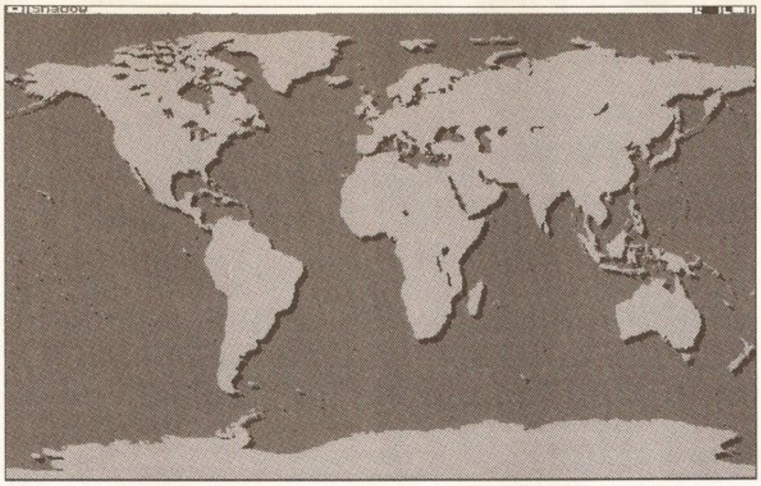
### AVAIL MEM

**Fred Fish 285**

Memory gauge programs are available in abundance throughout the PD libraries, but one of the smallest and best is *Avail Mem*.

When it is first run, *Avail Mem* opens a tiny window on your Workbench screen which displays the amount of chip and fast RAM available together with a display of the total amount of RAM currently available. As programs are loaded, *Avail Mem* automatically updates these totals.

**Value for Money..................7/10**



**Who needs the Penguin Atlas of the World when *DrawMap* can do the job just as well! With this you can generate programs of any part of the globe**

### DRAWMAP

**Fred Fish 315**

If you need to incorporate detailed maps of good old planet Earth into your DTP documents, then *DrawMap* is for you. The program enables you to generate maps of any part of the Earth and then save the results out to disk as an IFF file. And, because all its data is held in a structured form, the maps retain detail no matter how far you zoom in on a part of the world. It doesn't display place names etc, but an extra text option enables you to place your own labels anywhere on the map.

**Value for Money..................6/10**

### DCOPY

**AmigaNuts 700**

If you need a good wholesome disk copier to back up a disk faster than two blinks of an eyelid (OK, slight exaggeration there), then *DCopy* is your man. Although it can't handle commercial games, *DCopy* boasts a number of copy modes including nibble and fast copy modes.

**Value for Money..................7/10**

### PBAR

**TBAG #50**

Bored of the pattern of the Workbench window drag bar? If so, then do something about it with a copy of *PBar*, a versatile little program which patches Intuition windows allowing the standard drag bar pattern to be replaced by any pattern you desire.

**Value for Money..................8/10**

### PCALENDAR

**TBAG #50**

Also on TBAG Disk #50 is *PCalendar*, a popup calendar program.

When the program is first run, it opens a small window on the Workbench which is set in motion by clicking on it with the right mouse button. The program then displays a little calendar. Unfortunately, the program doesn't support the battery-backed clock inside virtually every Amiga but the A500, so it's definitely got its limitations.

**Value for Money......5/10** AS

## UK PD HOUSES

**Amiga Mouse PD**
182a High Street
Margate, Kent
☎ 0843 228166

**Amiganuts United**
169 Dale Valley Road
Hollybrook
Southampton SQ1 6QX

**Akore Shareware**
7 Fishergate Point
Lwr Parliament Street
Nottingham NG1 1GD
☎ 0800 252221

**AMOS PD Library (also Deja Vu)**
25 Park Road
Wigan WN6 7AA
☎ 0942 495261

**Anglia PDL**
115 Ranelagh
Felixtowe
Suffolk IP11 7HU
☎ 0394 283494

**Blitterchips**
Cliffe House
Primrose Street
Keighley BD21 4NN
☎ 0535 667469

**CanDo PD Library**
128 Portland Crescent
Stanmore
Middlesex HA7 1NA
☎ 081-204 3954

**CLS**
PO Box 7
Bletchley
Milton Keynes
MK2 3YL
☎ 0908 640763

**Crazy Joe's**
145 Effingham Street
Rotherham
South Yorks S65 1BL
☎ 0709 829286

**EdLib**
Scotland Farm
Stockwood Road
Brislington
Bristol BS4 5LU
☎ 0272 723489

**Electriclown**
90 Notley Road
Lowestoft
Suffolk NR33 0OG
☎ 0502 566752

**EMPDL**
54 Watnall Road
Hucknall
Nottingham NG15 7LE
☎ 0602 630071

**Essex Computer Systems**
118 Middle Crockerford
Basildon
Essex SS16 4JA
☎ 0268 553963

**Goldstar Computers**
PO Box 2
Tyldesley
Manchester M29 7BN
☎ 0942 895320

**ICPUG**
PO BOX 1309
London N3 2UT
☎ 081-346 0050

**Kernow Software PD Library**
51 Ennors Road
Newquay, Cornwall

**Lazerdisk**
57 Adamthwaite Drive
Blythe Bridge
Stoke On Trent ST11 9HL

**NBS**
1 Chain Lane, Newport
Isle Of Wight PO30 5QA
☎ 0983 529594

**Office Choice (OC-PD)**
Suite 14
Avon House, Town Centre
Cumbernauld G67
☎ 0236 737901

**PD Soft**
1 Bryant Avenue
Southend-On-Sea
Essex SS1 2YD
☎ 0702 612259

**Public Dominator**
PO BOX 801
Bishop's Stortford
Herts CM23 3TZ
☎ 0279 757692

**Riverdene PDL**
30a School Road
Tilehurst, Reading
Berkshire RG3 5AN
☎ 0734 452416

**Scanner Disk Magazine**
Telescan Computer Services
Handsworth Road
Blackpool FY5 1SB
☎ 0253 22296

**Sector 16**
160 Hollow Way
Cowley
Oxford
☎ 0865 774472

**Seventeen Bit Software**
PO BOX 97, Wakefield
West Yorks WF1 1XX
☎ 0924 366982

**Software Express**
Hebron House, Sion Road
Bedminster
Bristol BS3 3BD
☎ 0272 637634

**Softville**
Unit 5, Stratfield Park
Elettra Avenue, Waterlooville
Hants
PO7 7XN
☎ 0705 266509

**Start Computer Systems**
Barbican House
Bonnersfield
Sunderland SR6 0AA
☎ 091 564 1400

**Unique Computers**
114 Salters Road, Gosforth
Newcastle on Tyne NE3 3UP
☎ 091-284 7976

**Vally PD**
PO BOX 15, Peterlee
Co Durham SR8 1NZ
☎ 091-587 1195

**Virus Free PD**
23 Elborough Road
Moredon, Swindon
Wilts SN2 2LS
☎ 0793 512321

**Workbench PD**
1 Buccluech Street
Barrow-In-Furness
Cumbria LA14 1SR
☎ 0229 870000

# UNIQUE

## Public Domain, Shareware & Licenseware disks every one checked and certified virus free. Support included for Amiga 500+

### THE COMPLETE FISH COLLECTION ORIGINALS WITH O CHANGES COURIER DELIVERY DIRECTLY FROM FRED FISH IN ARIZONA

-501 **DOSWATCH:** Monitor for calls to Amiga DOS via dos.library requires Kickstart 1.2 or 1.3.

-502 **TRACKDOS V1.08:** A program that allows easy transfer of data between dos.memory and track disk device.

-507 **LHCON:** A program to convert Arc and Zoo formatted archives to LHArc.

-513 **FF-514 DKBTRACE:** A ray trace program that takes a text description of a 3D scene and renders it to a 24 bit file which may be converted to HAM or viewed on a 24 bit card.

-515 **CHECKBOOK ACCOUNTANT:** A chequebook recording, balancing, budgeting and analyzing program.

-521 **T3E:** Converts any text program to an executable with only 94 bytes added for hunk structure and display program.

-522 **MAK:** The mandelbrot adventure kit. A nicely done mandelbrot generator with full source code.

-527 **ARQ:** Replaces the standard system requesters with nice animated ones to which you can also attach different sounds. Works under Amiga DOS 1.3 or 2.0.

-528 **FONTCONV:** Converts Macintosh postscript type 1 and 3 fonts to the IBM postscript type 1 and 3 format also converts Macintosh bitmap fonts to the Adobe binary format.

-530 **TURBOTITLE:** A program created for the purpose of subtitling Japanese animation films and to create a standard Amiga subtitle format. Is perfectly suited for subtitling any foreign film.

-532 **BOOTPIC:** Allows you to install nearly any IFF picture that you like in place of the workbench hand that appears after a reset.

-533 **TRAINERMAKER:** Allows you to modify money, number of lives or high scores of some games. The game to be modified must be capable of multitasking.

-534 **TERM:** A telecommunications program written for Amiga OS release 2.X gives total configurability, full ARex control, Xpr-transfer-support, a fully featured VT100/VT220/ANS! emulation, full overscan and screen resolution support new BCS screen modes included, asynchronous operation and a lot more. Comes with 6 Xpr-transfer libraries (ascii, Jmodem, kermit, quickb, xmodem and zmodem) documentation in English and German included.

-537 **PAULCOPY:** A disk copier for single drive owners also works with half meg but requires multiple disk swaps.

-540 **Browser:** A programmers workbench. Allows you to easily and conveniently move, copy, delete and rename files and directories.

-541 **GIFMACHINE:** a program that will convert Compuserve GIF image files into IFF SHAM and 24 bit ILBM's. It offers a number of extra options like dithering, horizontal and vertical flip as well as automatic border removal.

543 **PICTSAVER:** A small utility that allows you to cut rectangular portions of any screen and store them on disk as IFF-ILBM files.

547 **VIDEOMAXE:** A program to manage one's video tape collection.

549 **FFEX:** A program for fractals. Lots of features uses an interesting algorithm for extra speed. Source includes modules reading writing ILBM pictures and for using the ARP file requester in modula.

551 **TOOLMANAGER V1.5:** A fully featured program to add other programs (workbench or CLI) to the tools menu of the 2.X workbench.

553 **24 BIT TOOLS:** 3 conversion programs to manipulate 24 bit images.

555 **FLASHCOPY:** A multitasking friendly disk copier that can make nibble copies as well as the standard DOS copies.

## ☆ Deja-Vu ☆

### LICENSEWARE £3.50 PER DISK

**THE DEJA-VU DISKS LISTED ARE COMPATIBLE WITH THE 500+**

LPD-004 **THINGAMAJIG:** Kiddies jigsaw type program with 24 pictures to choose from and a difficulty level. 1 meg.

LPD-008 **WORK AND PLAY:** 3 educational programs for kids. Click Clock, Fun Times Tables and Lets Go Shopping. 1 meg.

LPD-010 **THE WORD FACTORY:** A neat spelling game for the kids. 1 meg

LPD-014 **PLAY IT SAFE:** Teaches your kids safety in the home, garden, street, car and the park. 1 meg.

LPD-015 **ARC ANGELS SHAPES:** Fun for the kids build colourful pictures from predefined shapes. 1 meg.

LPD-028 **BUDBASE:** An easy to use database specifically designed for the beginner. 1 meg.

LPD-029 **BIG TOP FUN:** A top quality educational program three games based on circus acts. 1 meg.

LPD-039 **MAGIC FOREST II:** Version 1 was given away free with Amos. This program is far superior and continues the story set by version 1. 1 meg.

LPD-041 **RESCUE:** A 3D adventure in which you must solve a murder. You can click on objects and examine them for clues etc. excellent game.

### NEW DEJA-VU TITLES ARE:

**LPD-057 KIDDIES CLIP ART: 1 meg**
**LPD-059 PREHISTORIC FUN: 1 meg**
**LPD-060 TECHNO SNAIL: 1 meg**
**LPD-061 FINAL CHAPTER: 1 meg**
**LPD-062 REVOLUTION: 1 meg**
**LPD-064 RESCUE II: 1 meg**
**LPD-065 POWER PLANNER & DIARY CHECKER**
**LPD-066 HOTEL MANAGER: 1 meg**

### POLLYSOFT LICENSEWARE £3.00 PER DISK

PS-001 **SPACE BLOB:** Multi level game where you collect all the glowing items but avoid the beasties like the plague.

PS-002 **MR DIG:** An Amiga version of Dig Dug game. Help Mr Dig collect the apples and if you can squash the monsters with the rocks.

PS-003 **Q-BOID:** A Tetris variant to test your reflexes.

PS-004 **COMPUTER CONFLICT:** Try and rescue the planet and set your friends free. Excellent speech and graphics.

PS-005 **SUBCULTURE:** A shoot em up similar to R-Type with extra large creatures at the end of each level.

PS-007 **DIZZY LIZZY'S DASH:** A boulder dash type game with large graphics.

PS-008 **DIZZY LIZZY'S EDUCATIONAL 1:** Four games to make learning fun.

PS-009 **DIZZY LIZZY'S EDUCATIONAL 2:** Three games to continue the theme that learning can be fun.

PS-013 **BOUNTY BOBS HIGH NOON:** Playing the part of Lucky Luke you have to capture 20 bad guys dead or alive. 1 meg.

PS-014 **CLASSROOM MATHS:** A selection of Mathematical games so your kids can learn and play at the same time.

PS-015 **CRYSTAL CAVERNS:** A follow up to space blob with more levels and oh no more monsters.

### NEWSFLASH

**THE DISK BASED MAGAZINE**
**ISSUE 21 2 DISKS £4.99**
**ISSUE 22 3 DISKS £6.99**

Full of useful hints and tips, reviews, music, graphics and games. Articles on programming plus lots more. You want to take your Amiga seriously. You want

**NEWSFLASH**

UT-014 **AMIGA SYSTEMS TEST:** Tests keyboard, mouse, disk drive, memory - both chip and fast - screen resolutions, clock, sprites and more.

UT-016 **AMIBASE V3.76:** An easy to use database.

UT-021 **RIM V5.0:** Another more powerful database but you will have to read the docs first!

UT-045 **UNIQUE UTILS 1:** Amiga Mon, KeyMap Ed, A Text Editor, PCopy, FixDisk, Directory Work and Zero Virus III.

UT-046 **UNIQUE UTILS 2:** Power Packer V2.3b, Image Ed, CLImate, BootBlock Champion and Disk Optimizer.

UT-064 **C MANUAL V2.0:** 4 disks, the latest version of this excellent tutorial.

UT-072 **BANK'N V1.5:** An excellent utility for keeping track of your bank account, produces reports on income and expenditure so you can see where the money is going. Handles multiple accounts.

UT-074 **MANDELVROOM:** A fast friendly mandelbrot program

UT-075 **MANANIM & MANDELMOUNTAINS:** 2 nice variations on the mandelbrot theme.

UT-080 **A64 PACKAGE:** A commodore 64 emulator reputedly better than the commercial versions available

UT-094 **AMIGAZER & STARCHART:** If you want to know what's up there then these programs will help.

UT-092 **NORTH C V1.3:** 2 Disks, The very popular C compiler for the Amiga.

UT-108 **PRINT STUDIO:** will print text with different options. Will also print/save screens and windows or parts of colour pallette can be changed to your requirements.

UT-109 **UNIQUE UTILS 3:** KeyMapEd, PCopy, JPDirUtil, and SnoopDOS.

UT-110 **MED V3.1:** 2 Disks. The ever popular music program along with some examples.

UT-116 **CLIP IT Vol 1:** 5 disks of clip art

UT-121 **CLIP IT Vol 2:** 5 disks of clip art

UT-126 **CLIP IT Vol 3:** 5 disks of clip art

UT-131 **CLIP IT Vol 4:** 5 disks of clip art

UT-145 **NCOMM V1.9:** 2 Disks. This is one of the best communication packages available for the Amiga.

UT-147 **TEXT PLUS V3.0:** A fairly powerful word processing package.

UT-148 **BOOT X V3.80d:** An excellent (probably the best) and easy to use virus killer for the Amiga also on this disk is LVD which works alongside Boot X to give even more protection.

UT-149 **BOOT X V3.80d:** As above but for the Amiga Plus

GA-036 **UNIQUE GAMES 2:** Amigoids, Amoeba, Paccer, & Girl Actions, Compatible with plus

GA-048 **UNIQUE GAMES 10:** Puzz, Sys, MiniBlast, Imperium Romanum, Compatible with plus.

GA-059 **UNIQUE GAMES 16:** Drip & Roll On. Compatible with plus.

GA-063 **UNIQUE GAMES 19:** Air Ace II, Triangle, Mosaic and Word Puzzle. Compatible with plus.

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**Above prices apply to P.D. & Shareware only. Licenseware is as quoted. Send orders to:**

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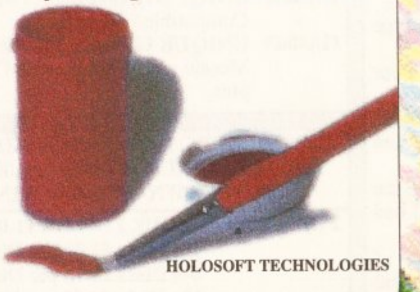
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IN OUR BIGGEST EVER ISSUE!
- More pages of game reviews
- More Gamebusters game tips
- More dead useful Workbench advice THAN EVER BEFORE!

ON SALE UNT... JAN 9T...

# BUYING ADVICE FOR SHOPPERS

***Whether buying over the phone or at a local store, here's our advice on how to get what you want***

### BUYING IN PERSON

- Where possible, always test any software and hardware in the shop before taking it home, to make sure that it works properly.
- Make sure you have all the necessary leads, manuals or other accessories you need.
- Don't forget to keep your receipt.

### BUYING BY PHONE

- Be as clear as possible when stating what you want to buy. Make sure you confirm all the technical details of what you are buying. Some things to bear in mind are version numbers, memory requirements, other required hardware or software and compatibility with your particular model of Amiga (that is, make sure you know which version of Kickstart you have).
- Check the price you are asked to pay, and make sure that it's the same as the price advertised.
- Check that what you are ordering is actually in stock.
- Check when and how the article will be delivered, and that any extra charges are as stated on the advert.
- Make a note of the date and time when you order the product.

### BUYING BY POST

As with buying by phone, you should clearly state exactly what it is you are buying, at what price (refer to the magazine, page and issue number where it's advertised) and give any relevant information about your system set-up where necessary. You should also make sure you keep copies of all correspondence both to and from the company concerned.

### MAKING RETURNS

Whichever method you buy by, you are entitled to return a product if it fails to meet any one of the following three criteria:

- The goods must be of 'merchantable quality'.
- The goods must be 'as described'.
- The goods must be fit for the purpose for which they were sold.

If they fail to satisfy any or all of the criteria, then you are then entitled to:

- Return them for a refund.
- Receive compensation for part of the value.
- Get a replacement or free repair.

When returning anything, ensure that you have proof of purchase and that you return the item as soon as possible after receiving it. For this reason it is important that you check the hardware or software as soon as it is delivered to make sure everything you ordered is there and works as it is supposed to.

### HOW TO PAY

Paying by credit card is the most sensible way, whether buying in person, by post or on the phone, because you may be able to claim the money from the credit card company even if the firm you ordered from has gone bust or refuses to help sort out your problem.

Otherwise, you should pay by crossed cheque or postal order – never send coins or notes through the mail.

### GETTING REPAIRS

Always check the conditions of the guarantee, and servicing and replacement policy, so that you know what level of support to expect. Always fill in and return warranty cards as soon as possible, and make sure that you are aware of all the conditions contained in the guarantee.

### BUYING PD

Even though PD software is relatively inexpensive, you should still apply the guidelines set out above, making sure that you confirm all orders as clearly as possible.

Shopping around is still important when buying PD because different houses charge different prices for the same disks. There is no set pricing structure for disks, but bear in mind that PD houses are, in theory, supposed to be non-profit making operations. AS

## A CHECK LIST FOR MAIL ORDER BUYING

**1** **Make sure you know exactly what you want. Draw up a checklist of the specifications you are looking for and what you want it to be able to do. Check with the suppliers that their product matches your list**

**2** **Will the product you have in mind work with your existing set-up, and anything else you are planning to buy?**

**3** **Can you see a demonstration? Many products are on display at computer shows around the country.**

**4** **Are there any hidden extras? Does it need 1Mb to run, or a hard disk?**

**5** **What technical support is provided by the supplier? Does the manufacturer offer after-sales advice? Check before you buy.**

**6** **Check the guarantee terms. How long is the free warranty? What does it offer?**

**7** **Draw up a list of these details and make them a condition of your order.**

**8** **Check the price and delivery details when you order, and make a note of them.**

**9** **Note down when you placed the order and who you spoke to.**

**10** **When it arrives, check everything carefully. If anything is missing, don't use the product at all – contact the supplier. If it doesn't work, make the obvious checks such as the fuse. If it still doesn't work don't try to fix it – contact the supplier.**

## ADVERTISERS INDEX

WIN • WIN • WIN • WIN • WIN • WIN • WIN • WIN

# Free: 10 Deluxe Paint IVs must go!

Everybody's into graphics at the moment – let's face it, that's what the Amiga's best at. And now you have the chance to do it properly and take advantage of the Amiga's full palette (yes folks, that's right, 4096 colours, all at once!) with the latest and greatest in the renowned *Deluxe Paint* series.

Courtesy of Electronic Arts, we've got ten copies of this package which Phil South, in his review, ebulliently described as "the best thing since sliced bread".

Find out for yourself – have a go at the questions and send your answers on a postcard to:
Deluxe Paint IV Competition,
*Amiga Shopper*,
29 Monmouth Street,
Bath BA1 2DL.
The closing date for entries is February 7. Get cracking!

## 3 SIMPLE QUESTIONS

**QUESTION 1**
**With which brand of soup do you associate Andy Warhol?**
**a) Heinz**
**b) Campbell's**
**c) Sainsbury's**

**QUESTION 2**
**Who wrote *Starry, Starry Night*, the song about Van Gogh?**
**a) Joni Mitchell**
**b) John Denver**
**c) Slayer**

**QUESTION 3**
**What was the name of the painting movement to which Matisse and Dérain belonged?**
**a) Fauvism**
**b) Cubism**
**c) Post modern deconstructivism**




***Create superb 4096 colour pictures like the one above and discover the amazing possibilities of Electronic Art's Deluxe Paint IV...***

## ARE YOU A GFA BASIC WINNER?

**Many budding programmers had a go at the GFA Basic competition of December's issue. The correct answers were as follows:**
**1) Basic stands for Beginners All-purpose Symbolic Instruction Code**
**2) GFA Basic is also available on, amongst others, the Atari ST and the IBM PC**
**3) A compiled program is faster than its interpreted equivalent.**
**Regrettably, not everyone can win! The six lucky people are: Ronnie James of Alloa, Clacks; KJ Anderson of Wirral, Merseyside; Leon Sienkiewicz of Keighley, West Yorkshire; SL Brown of Hull; P Cole of Chester-le-Street, Co. Durham; and Lucinda Glover of London. You've all done very well!**

## TWO SHORT YEARS AGO...

In which we take a look at the Amiga events of February '90.

● Details of Commodore's latest Amiga, the A3000 were leaked from a secret meeting of developers and officials in Paris. The machine's processor was confirmed to be the Motorola 68030 and not, as some had hoped, the 68040.

● It was revealed that Commodore had begun work on a multimedia authoring system, operated by an iconic front end. The system was announced as *Amiga Vision*.

● Another new (well, almost) Amiga made the news, in the form of Checkmate Digital's A1500 expansion system. Not to be confused with Commodore's A1500, it was an add-on that gave A500 owners the chance to easily expand their existing systems.

● A memory expansion board measuring only four centimetres across was launched by Memory Expansion Systems for £68.

● A joint venture between Dr T and Commodore in the USA was announced. It amounted to a bundle put together by the two firms specifically for MIDI musicians. Included in the bundle were an A2000 with hard disk, Dr T's *KCS 3.0* sequencer and *Copyist Apprentice*, Dr T's scoring package.

## ...AND NEXT MONTH

Fear not, Shoppa-holics: you may have reached the end of the mag, but it's a short wait until the next fact-filled extravaganza hits the streets. You can look forward to:

● Time to get serious about CDTV? With its recent name-change to Amiga CDTV, the machine is suddenly a computer, not just an expensive way of playing *Lemmings*. Mark Smiddy, in characteristically in-depth style, takes a look at Commodore's baby and finds out what it can do for you.

● Clowning around with colour will be Phil South, with his review of the Amiga Centre Scotland's Harlequin 32-bit graphics board.

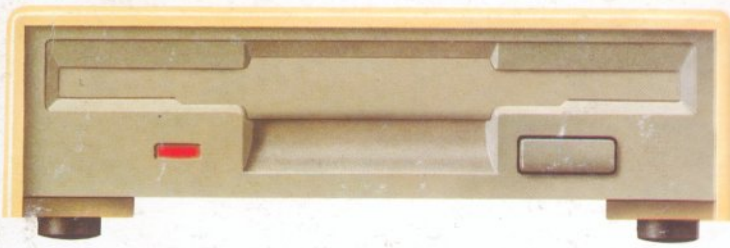
● Printing for beginners. There's nothing like printers for causing difficulties for newcomers, and there's no-one but Jeff Walker to give the low-down on what's what.

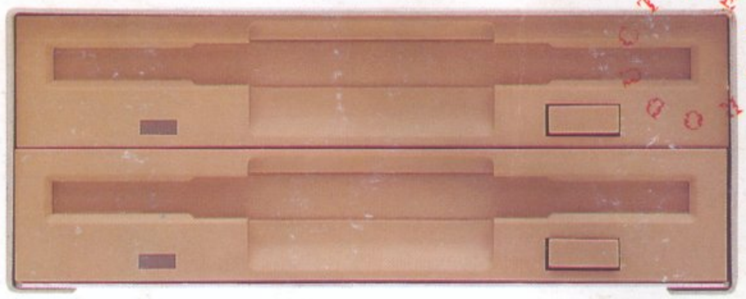
● Programming – where to begin. Cliff Ramshaw, in the first of a new series, explodes a few programming myths as he explains just how easy it is to get started.

● Comm in, number one! Veteran of CIX and modem-wielder extraordinaire Phil Harris kicks off our new, revamped comms column.

● All of this, plus our regular series and Amiga Answers, *the* most comprehensive problem page.

# Where you can stick it.





Viruses, disk swapping, clicking drives, disks which won't back up. Is there no end to the whingeing of the Amiga user?

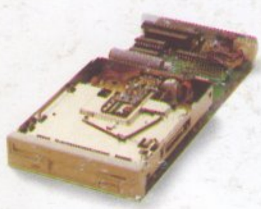
At Power, we want to tell you just where you can stick your disks and worries. In fact we will show you. The slot in this picture belongs to our PC880B, the first intelligent disk drive. Insert a disk.

Now you can back up at lightning speeds using the inbuilt Blitz Amiga hardware*, with free software, (even if the disk is Atari or PC) and if your computer has a virus the PC880B will stop it being written to the bootblock of any of your drives, though you can still save files as normal.

When you do not want these features, switch them off and the PC880B will sit quietly, without clicking, pretending to be simply an extra drive.

The PC880B, the only drive to introduce Blitz Amiga, the Power anti-click device and to combat viruses, is only available direct from Power, priced at just **£69·95**.

We have noticed how pricey unintelligent drives are. Perhaps, it's your turn to tell people where to stick it.



**£69·95**

* Due to the precision nature of the Blitz copier high density disks may be required with some internal drives.

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